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Automation of Graduate Program Plan of Study at DSU

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Student Name: Olusola Awonuga

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Master's Project Title: Automation of Graduate Program Plan of Study at DSU

Date Project Plan Approved: _____

Date Project Coordinator Notified and Grade Submitted: _____

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Committee member: Min Shan

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Date: 4/28/06

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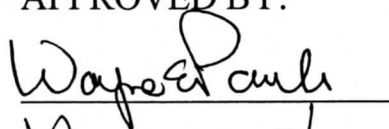
Automation of Graduate Program Plan of Study at DSU

By

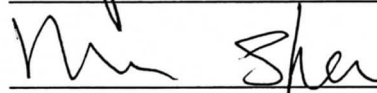
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Automation of Graduate Program Plan of Study at DSU

By

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A Project Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Information Systems

Project Committee Members

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May, 2006

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To God be the Glory, great things He has done.

It is a great pleasure for me to acknowledge the assistance and contribution of a number of individuals.

First, I will like to appreciate the support and effort of my project committee member Dr Wayne Pauli, Haomin Wang and Dr. Ronghua Shan for their time, sense of direction and guidance in putting this project work to success.

Second, I will also thank my family who has been really supportive; their effort, words of encouragement and steadfast love have been relentless.

Finally, I will like to thank all MSIS faculty member who have one way or the other contributed towards my study at Dakota State University.

Abstract

Information and communication technology (ICT) has become one of the basic building blocks of modern society; providing assistance in every facet of life including academic operations throughout higher education. The applications of Information Technology are accelerating the transformation of the global economy by improved speed, capacity and processing of data. These technologies and applications bear the potential of a massive progress, particularly in school management and administration; it underpins the success of academic activities by providing efficient infrastructure and at the same time adds value to the processes of learning. The Internet, with the aid of creative websites, is the driving force for most technological development and advancement today. We are now living in a world where information printed on paper is getting out of date; yet the MSIS Plan of Study at Dakota State University is presently mostly paper-based and cumbersome. This project aims to eliminate the paperwork and replace it with a simplified automated web-based system that ensures fast and efficient work flow delivering results with the use of the internet and web technology.

Manually printing and completing the MSIS Plan of Study at Dakota State University and the stress of submitting the Plan of Study by graduate students, is an unnecessary burden on both graduate students and coordinator. It is imperative to maximize the technology in place for the benefit of both the graduate students and staff as it posits a more simplified approach to implementing day to day school administration and academic activities.

The primary goal of this project however, was to implement a web-based MSIS Plan of Study System for graduate program at Dakota State University. Graduate students will be able to complete and submit their Plan of Study online. It is design to enable the program coordinator and program director to access the submitted Plan of Study and be able to modify any changes to

MSIS courses and the Course Rotation so as to simplify plan of study activities. This goal was accomplished by integrating database into WebPages, giving room for quick update and maintenance of MSIS Courses. The web-based MSIS Plan of Study System was developed using ASP.NET 2.0; the latest version of Microsoft Active Server Pages with Visual Basic Web Developer programming tool and Microsoft Access database.

Declaration

I hereby declare that this project is my own work and does not involve plagiarism or collusion to the best of my knowledge and I have retained a copy of this project.

Name: Awonuga Olusola

Date: 28th April 2006

Presentation day and time: 11:00am, Friday

(Signed).....



Date.....

05/19/2008

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Chapter One

1.1 Introduction

This project has emerged as a result of the realization that the paperwork throughout academic affairs has become a major obstacle to the administrative improvement of education in this technological advanced age. We are living in a world where information printed on paper is getting out of date. Paper documentation has problems. How does one control paper copies? How does one keep paper documentation current? How can we ensure that everyone has immediate access to the latest information and records? How can different groups and teams share information and be assured they have all the records they need? Paper makes everything from authorization and duplicating to storage and retrieval difficult, frustrating, time consuming and expensive.

Recent advancements in web-technology have made it possible to move documentation and data management away from paper based systems. New web programming languages that take advantage of high-end database technology are finally delivering on the promise of a paperless office.

The applications of Information Technology are accelerating the transformation of the global economy by improved speed, capacity and processing of data. These technologies and applications bear the potential of a massive progress, particularly in school management and administration. A vision of what a program ought to be and systemic changes are terms often associated with planning for program improvement. Vision is what people in a school believe their program can and should become. "Systemic means working with every aspect of the school system and finding interconnections that support student learning and program administration"

(Holzman, 1993). Technology planning should not exist in isolation; rather, it should be fully integrated into schools' system planning process.

Educational technology may be a development or application of tools, machines, materials and processes that help to solve human problems or it may be an imaginary prospect depending upon individual understanding of its potential and skill in utilization of new models of teaching, learning and administering. In reality it may be neither. Educational Technology is an excellent learning tool that holds great promise for expanding the walls of the learning community and meeting the changing needs of future generations.

Schools are increasing their acquisition of and access to numerous technologies. The United States Office of Technology Assessment (OTA) released the findings of a comprehensive federal study, *Teachers and Technology: Making the Connection*. The OTA found that "schools access to various technologies is rising steadily" (O'Neil, 2004). However, the utilization of technology is quite traditional. The most common uses of technology today are the uses of video for presenting information, the use of computers for basic skills and the use of other generic programs for developing computer-specific skills.

Today, the world is turning to a paperless environment. An environment that would not use paper to print text, but would display text, most likely as is seen on a computer screen. Many challenges exist before this will be fully realized. The U.S. government and business sectors seem to be leading the charge toward a paperless environment—a great step toward a true paperless society.

A 1999 report by the Office of the Inspector General of the U.S. Small Business Administration defines an office as paperless if "its work processes are essentially electronic, with minimal required use of paper documents and reduced need for human handling of routine

tasks.” Although this project is still far from actually making the MSIS Graduate program administrative paperless, it is a move in that direction. It will be some time before we see a completely paperless environment. The introduction of electronic commerce and electronic government are leading the push toward a more efficient world without paper.

The question remains: Is society progressing toward a paperless environment and will it ever be fully achieved? People have ingrained habits that can be hard to change. Moving to a paperless environment cannot happen until everybody takes full advantage of the availability of technology at their possession or will have to wait until an entire generation has been raised using the electronic alternatives to paper.

1.2 Statement of Problems

Recently, I had to select courses for my enrollment for the MSIS program at Dakota State University. Strangely enough, the progressive and technologically-advanced graduate program has a very archaic Plan of Study System. Graduate students must look up courses and course codes in one print out called “Course Rotation”, and then use the course rotation to find when the course is offered and then develop a Plan of Study (yet on a separate paper) for MSIS program. Alternatively, or actually necessarily graduate students have access to a website full of course and course codes and a second unclear website to find out scheduled times. The system was implemented in 1998 and has had very limited modification that can be improved upon with the use of Web based technology.

The program should offer a simpler system; perhaps take advantage of their technical prowess. However, if the MSIS Graduate program at Dakota State University insists on using a complicated by-hand system, it should at least make sure that the information it provides is clear

and embrace a clear, simple technology that addresses graduate student goals more efficiently than the current system.

One way to help students reach their goals is to offer a system that speeds up their academic process. The easier the system is to learn and use, the more students will be able to reach their academic goals and easier it is for the program coordinator. In many cases, the old paper way of doing things is not efficient; they can be downright useless and very frustrating (such as the archaic MSIS course selection process). Technology can make doing certain things a more pleasurable experience that takes less time. However, the following problems have currently been identified with the present mode of MSIS Plan of Study.

- (a) Manual means of Printing and Submission: Graduate student have to print out all related form of the Plan of Study, complete it and submit manually to the Graduate or Program Coordinator.
- (b) Complex mix up of the Rotation and Plan of study: Graduate students have to look up the rotation before completing their plan of study which is complex, because most students do not understand the rotation well enough to match it up right away.
- (c) Most Graduate students end up completing the plan of study wrongly only for them to submit and be told they have not properly followed the rotation.
- (d) Short Span of the Rotation: The rotation only spans for a period of two years. Graduate Students who want to spend more than two years for their program would find it difficult to complete their plan of study successfully.
- (e) Mode of Course Rotation Update is cumbersome: New courses introduced or that needs to be deleted in any semester require an ultimate change in the rotation.

1.3 Objectives and Significance of Project

The MSIS Plan of Study at Dakota State University is presently mostly paper-based. No automated effort has been put in place to make this system more streamlined. One goal of the project is to eliminate the paperwork process and replace it with a simplified automated requests and procedures that ensure fast and efficient work flow.

Computer-based systems are precious tools for enhancing efficiency, productivity and better service. The primary objectives this project aims to take advantage of are:

1. Introduce a shift from paper-based to online graduate Plan of Study system,
2. Enhance and develop the digital learning environment and its infrastructure.

Not only will this project assist graduate students in terms of completing their plan of study but also it will offer flexibility for the graduate program to manipulate the course rotation. Unlike paper, electronic documents and records can never be lost on anyone's desk and are always perfectly preserved. Such a system ensures that all records remain legible, readily identifiable and retrievable. The data itself will be stored in databases on a web server, which can then be backed up and safeguarded from any permanent data loss. This system will enable speedy retrieval of submitted Plan of Study electronically and, therefore, expedites the review and approval process.

1.4 Scope and Limitation of Project

The result of this project is for the Master of Science in Information System Program at Dakota State University. It is not for the entire Graduate Program at Dakota State University and also not a proposed Plan of study for the entire university. Thus, the project is not generalizable.

The rapid growth of IT as well as the exponential growth of information has been major

factors that triggered the shift from paper-based to the proposed paperless environment.

However, this transition has been restricted due to various factors, which include availability and continuous upgrade of IT infrastructure, full utilization of available IT infrastructure, and integration of IT into every facet of the learning environment including the administration of academic affairs. Thus, the implementation of this project is outside my control. The implementation depends largely and entirely on the administrator of the MSIS program.

1.5 Rationale of Project

It can be frustrating and confusing to have the same documentation process handled differently inside the same institution. A web-based system inherently keeps this from happening; because all forms are on-line, procedures will be handled the exact same way.

In addition to being a central location for forms and documentation, web based systems are also repositories for records of submitted Plan of Study. Administrators do not need to worry that the most recent versions of manuals are being used, a common problem with the existing system. Within an electronic environment the current manual or procedure is kept in digital format and it becomes the only controlled copy. Students are conditioned to know that they could not rely on an uncontrolled piece of paper. Instead they turn to the on-line system for the most up-to-date version. All students are looking at the same active documents and data at any given moment because everything is displayed in real-time. Graduate Program Coordinator and Director can be secure in the knowledge that their students have the latest version of the Course Rotation. Incidentally this type of system is ideal for Dakota State University's Master of Science in Information System Program. Control of documents is an element that is handled perfectly by an electronic system.

The power of a web-based system grows when it takes advantage of integrated e-mail. Relying on paper to communicate is slow and costly. Gone are the days when an internal document slowly makes its way around an organization gathering signatures. Today such a document can be instantly submitted to a digital system and distributed by e-mail to as many individuals and workgroups as needed.

It is essential that schools move toward total interconnection (A paperless environment). Technology planning and improvements should be a part of Dakota State University school system's improvement goals.

1.6 Project Deliverable

The deliverable for this project is a web-based graduate Plan of Study system that manages and stores data in an electronic format; any type of documentation or record that is needed can be completed using a customized online form displayed in a web browser. Once a completed form is submitted to the system, it will be categorized, instantly made available to authorized personnel to view, reference, approve and store. The automation will aid the following:

- (a) Online submission of Graduate Plan of Study.
- (b) Embedded Rotation in the Plan of Study: The Rotation will automatically be embedded in the plan of study so that graduate students can complete their Plan of Study without any complexity.
- (c) Elimination of printing and manual means of submission.
- (d) Graduate program coordinator ease of updating course rotation: With the aid of an Administrative Interface, Graduate Program Coordinator or Director will be able to update any changes that need to be implemented during any period.

- (e) Automatic e-mail notification to Coordinator of submitted plan of study: Program Coordinator will automatically be notified of a submitted plan of study once submitted.
- (f) Ability to update submitted Plan of Study: In event that any student wants to make changes to an already submitted Plan of Study, they are able to access their Plan of Study, make changes and a notification message of the successful update is automatically sent to program administrators.
- (g) Program Coordinator access to the database of submitted Plan of Study.
- (h) Flexibility: The automation will be flexible enough to adapt to changes both in the Plan of study interface and the Administrative interface.
- (i) Elimination of the cumbersome nature of having to maneuver the Rotation alongside the Plan of Study.
- (j) Ability to review prepared plan of study before submission: Graduate students would be able to review an already prepared plan of study and be sure that is what they want before submitting.

The Automated Plan of Study consists of a student interface and an administrative interface:

Student Interface:

Here Graduate students will be able to fill in their plan of study, this will have an embedded rotation beneath the form, giving graduate students a mode of concentration on what courses are available in any semester and how it can be taken. Also graduate students who intend to update an already submitted form will be able to access their submitted plan of study and update immediately.

Administrative Interface:

This interface is for updating the rotation by the graduate or program coordinator. The coordinator are able to modify MSIS courses, make changes to existing MSIS courses as and when needed and access submitted Plan of Study through this interface

This project is developed using ASP.NET 2.0. The application logic of the ASP.NET pages is written using the Visual Basic as the programming language. This provides a rich-feature application environment, simplified development and easy integration between development languages. The programming language is supported by Microsoft Access database.

A use case representative diagram that provides the functionality of the Plan of Study System is represented below.

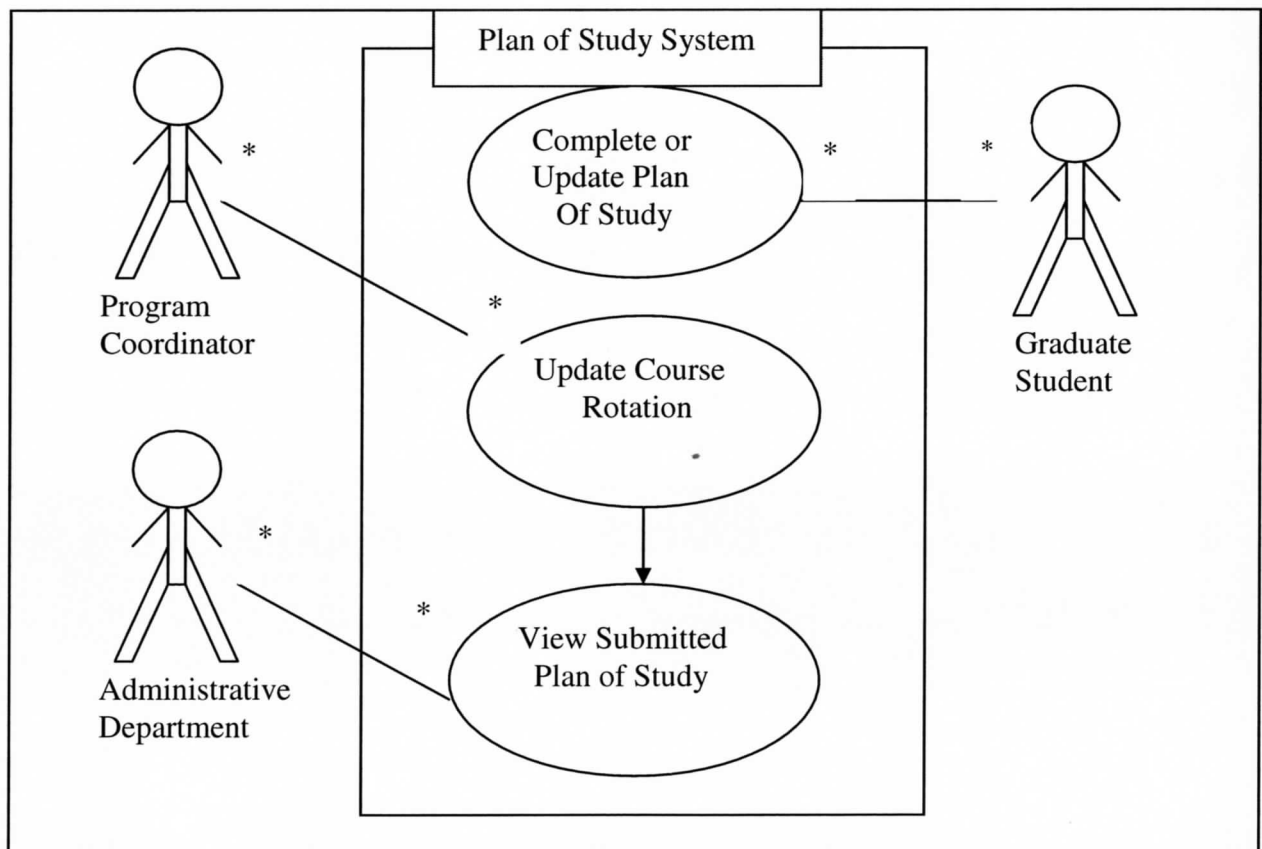


Fig.1: Use Case Diagram for MSIS Plan of Study System

Chapter Two

2.1 Overview

Recent developments in Information Technology (IT) and the commercialization of the Internet have generated new opportunities for the delivery of education and allowed many institutions of higher education bring their resources closer to a broad base of current and potential students. In the past three decades, technology has transformed education, particularly through the growing use of the internet and now an increasingly important resource for education and learning.

As Information Technology (IT) is growing to a powerful force in the world, it is also emerging as a new role within and affecting student affairs and administration in many ways while cutting across all areas of student management. New ways to create and use web interfaces (Asp.Net or Active Server Pages files) have become generally accepted at providing efficiencies in collecting and providing information. (Barratt, 2001).

A paradigm shift is now taking place in higher education administration and instruction, from a mode of faculty-student interaction occurring in fixed locations at specified times to one in which students can access the same administrative and instructional resources in a variety of forms, regardless of location, at their convenience. This has been possible as a result of several technologies that have matured, supporting major changes in how activities can be administered and instructions can be delivered to students on the campus, in their homes, or in their work places.

The United States OTA (Office of Technology Assessment) found that "schools access to various technologies is rising steadily"(O'Neil, 2004). However, the utilization of technology is quite traditional. There is therefore a growing effort, in universities and colleges, all over the

world today to take advantages offered by today's technology to modify work processes, and this has resulted in more staff time being available to work with students. Less time spent on mundane task means more time interacting with students.

Therefore, this project aims at achieving a defined future role of technology in support of MSIS administrative program by adding a much-desired component to the MSIS program portfolio - an online Plan of Study - which will allow graduate students to organize and plan for their courses, modify it as needed, and print it out for reference if needed. The project is exploring a cost-effective technology solutions aimed at improving learning, reducing labor intensity, and providing new ways for university administration to deliver better services to graduate students while enhancing the quality of administration.

While information technologies are designed to increase the efficiency of current work processes, they enable things never before thought possible to be done. The paradigm is only beginning to shift to the exploitation of the potential of IT in student affairs. Escalating costs, declining support, increasing demand, and diverse demographics have placed significant pressures on higher education to become more productive. Careful analysis shows that the productivity improvements required cannot be achieved by increasing the workload of the faculty; in fact, any significant movement in this direction will only decrease the quality of administration and instruction. There is simply no room left in the workday of a faculty member to attend to mundane tasks. Rather, the focus for productivity improvement must be on resources that will decrease the time needed to do mundane task. (Anderson, 2002). This project is therefore needed to solve the paper based method of MSIS plan of study at Dakota state University.

Integrated IT plans into school administration are only emerging as a reality on campuses. Such a plan would identify significant IT obstacles, propose solutions for these problems, identify budget recourses and staffing, and include an evaluation component. Typically IT plans identify increases in efficiency as a problem to be solved by technology. An additional component should be the ability to do things never before possible. Dramatic changes begin small, and many student services are beginning to be transformed through the use of IT. Most campuses are experimenting with students' administration using a web interface, which was never before possible.

2.2 Trends in developing Web-based Plan of Study System

The Systems Development Life Cycle

The Plan of Study System will be accomplished following the system development life cycle. Systems Development Life Cycle (SDLC) was developed because, historically, many computer systems were being delivered which did not satisfy user requirements, and those few projects that did satisfy user requirements were being developed over budget or over time. The SDLC is a methodology that has been constructed to ensure that computer system, and the Plan of Study system for the MSIS at Dakota State University in this case, is designed and implemented in a methodical, logical and step-by-step approach.

The MSIS Plan of Study will be developed following the six steps or phases, in the SDLC:

1. The Preliminary Investigation Phase
2. The Analysis Phase
3. The Design Phase

4. The Development Phase
5. The Implementation Phase
6. The Maintenance Phase

Each phase within the overall cycle is made up of several steps, thus creating a tangible product or deliverable necessary for the proper automation of the MSIS Plan of Study.

System Development Life Cycle (SDLC) of the MSIS Plan of Study Automation

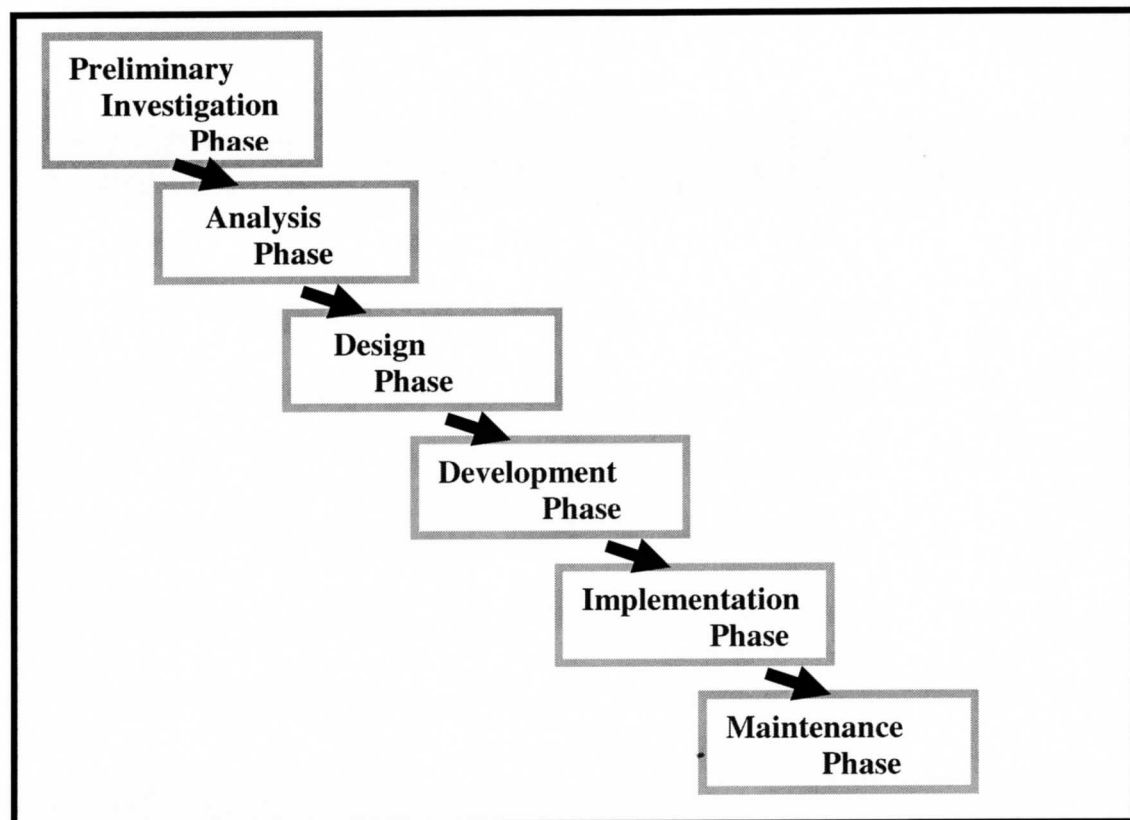


Fig.2 Plan of Study System Development Life Cycle

An important component of the SDLC for the Plan of Study Project is that at each phase, a conscious decision is made to continue the development of the project, or to drop it. In the past, projects developed without the guidance of the SDLC were continued well after 'common sense'

dictated that it made no sense to proceed further. The deliverables act as milestones against which the progress and continuing viability of the project can be judged.

The Preliminary Investigation

The Preliminary Investigation Phase begins during the planning phase of this project when I perceived a problem and deficiency in the existing MSIS Plan of Study and something new needed to replace the cumbersome existing method. This is a fundamental process to understanding why an online Plan of Study is needed and determining how the system will be built. During this stage I determined the benefit of the online Plan of study compare with the existing system.

The purpose of the Preliminary Investigation is not to develop a system, but to verify that a problem or deficiency really exists, and to create an idea for a new and improved system. The end result, or deliverable, from this phase is the willingness to proceed further and determine whether actually an improved system is technically and economically feasible for the Plan of Study. There are three factors typically called constraints that were considered in this phase:

- (a) **Technical:** Can the Plan of Study be completed with the technology currently in existence? Can the project be implemented? Can the project satisfy the student requirements? Can all the feature of the existing Plan of Study be incorporated online? Do I have the technical ability to write the program? This constraint is typified by Leonardo da Vinci's inability to build a helicopter even though he was credited with designing one in the 16th century. Technological constraints made the construction of the helicopter impossible.
- (b) **Time:** Can the project be completed within the time available for my project implementation? This is a frequent reason for the abandonment of the project after the

Preliminary Investigation phase. The economic feasibility was also considered to determine if the Plan of Study will provide administrative and or educational value. The organization feasibility was also considered to determine if the plan of study will be implemented after it has been completed.

- (c) **Budgetary:** The project can be completed and completed on time to satisfy the requirements. There is no cost involved in implementing the project, however, there might arise some individual constraint, or any combination of the three (Budgetary, Time and Technical) constraint that might prevents the project from being developed any further.

The Analysis Phase

In the Analysis Phase (Data Gathering Phase) the existing (as is) Plan of Study and its deficiencies together with the proposed (to be) online plan of study are examined in detail. The course rotation is critically examined to make sure the rotation is consistent and studied how the course rotation can be automated in the proposed online plan of study. Every other aspect of the existing plan of study was also critically examined to make sure that they are all automatable. Detailed considerations of the impact of the knowledge courses and the core courses to the different type of specialization were considered. This stage answers the questions of who will use the system, where and when it will be used.

At the end of Analysis phase, the following use case models were developed: the use case models described the online Plan of Study. It helps provide an understanding of the requirements, the function and the internal and external behavior of the plan of study system. It is a formal way of representing how the plan of study system will interact within its environment (Cockburn 2003, September).

Use Case Description

USE CASE 1: Complete Plan of Study Form

Characteristics Information

Brief Description

Graduate student accesses the system to complete their course registration form for their graduate program.

Primary Actor

MSIS Graduate Student

Stakeholders

Program Director

Trigger

Students enroll for MSIS Graduate Program

Preconditions:

Graduate Student has undergone initial checks to verify eligibility for courses registration.

Graduate Student is logged into the system.

Guarantees

Success End Condition

Graduate Student performs the desired operation.

Failed End Condition

System remains unaffected.

Main Success Scenario

- 1a. Graduate student logs in.

2. Student provides the System with their personal information (Name, student I.D, Date, Date Admitted to program, Date expected to graduate, and Advisor's name) and registers for desired courses.
3. System validates the information.
- 4a. Graduate student completes Plan of Study online form.
- 5a. System sends e-mail notification to graduate coordinator.
6. System saves the information.

Extensions

- *a. Graduate Student selects to quit at anytime.
 - *a.1. System asks graduate student to save information before quitting.
 - *a.2. System saves information and quits [fail].
 - *a.1.a. Graduate Student selects not to save information.
 - System quits without saving [fail].
- 1b. Graduate Student unable to log on:
 - 1b1. System asks the Graduate Student to re-enter Student ID
 - 1b2. System searches for the matching ID.
 - 1b2.1. No matched data is found:
 - System notifies the Graduate Student [repeat at 1].
 - 1b3. System quits.
- 4b. Graduate Student selects to modify plan of study information:
 - 4b1. Graduate Student provides the Student ID.
 - 4b2. System validates the Student's ID.
 - 4b2a. Student ID does not exist:

System notifies Graduate Student [repeat at 2].

4b3. System retrieves the current Plan of Study information.

4b3a. Current Plan of Study information not found:

System notifies Graduate Student [fail].

4b4. Graduate Student makes the changes to the Plan of Study information.

4b5. System validates the information.

4b6. System saves the information.

4b7. System sends e-mail notification to coordinator of student's successful update.

4c. Graduate Student selects to print information:

4c1. System asks Graduate Student to enter the criteria for printing/listing.

4c2. System searches for matching information.

4c2.1 System cannot find matching information:

System notifies Graduate Student [repeat at 2].

4c3. System prints the information.

5b. Information not valid or incomplete:

5b1. System notifies Graduate Student [repeat at 2].

USE CASE 2: Update and Retrieve Information

Characteristic Information

Brief Description

Coordinator accesses the system to retrieve graduate students' registered courses or modify existing MSIS Courses and course availability.

Primary Actor

MSIS Graduate Coordinator

Stakeholders

Graduate Students

Trigger

Coordinator logs onto the system to retrieve or update information.

Preconditions

Coordinator is logged on to the system.

Guarantees**Success End Condition**

Coordinator performs the desired operation.

Failed End Condition

System remains unaffected.

Main Success Scenario

1. Coordinator logs on to retrieve graduate student information.
- 2a. Coordinator provides the system with Administrative information (Administrative ID and Password).
3. System validates Coordinator ID and data according to Administrative Signup Rules.
4. System generates the Administrative interface according to the Plan of Study System Rules.
- 5a. Coordinator updates MSIS Courses.

6. System saves the data.
7. System displays the confirmation.

Extensions

- *a. Coordinator selects to quit at anytime.
 - *a.1. System asks Coordinator to save information before quitting.
 - *a.2. System saves information and quits [fail].
 - *a.1.a. Coordinator selects not to save information.
System quits without saving [fail].
- 2b. Administrative ID/password does not exist:
 - 2b1. System notifies the Coordinator [fail] [repeat at 1].
 - 2b2. Coordinator is able to proceed.
- 5b. Coordinator selects to modify MSIS Courses and course availability:
 - 5b1. Coordinator provides the Administrative ID.
 - 5b2. System validates the Administrative ID.
 - 5b2a. Administrative ID does not exist:
System notifies the Coordinator [repeat at 1b1].
 - 5b3. System displays the MSIS Courses.
 - 5b3a. MSIS Courses not found:
System notifies the Coordinator [fail].
 - 5b4. Coordinator makes changes to MSIS Courses.
 - 5b5. System validates the information.
 - 5b6. System saves the information.
- 5c. Coordinator selects to view Graduate Student submitted information:

- 5c1. System asks Coordinator to enter the graduate student criteria information.
- 5c2. System searches for matching information.
 - 5c2.1 System cannot find matching information:
 - System notifies the Coordinator [repeat at 1c1].
- 5c3. System displays graduate students' Plan of Study.

To ensure that all aspects important to designing the automated Plan of Study were addressed, in the first chapter, a fishbone diagram, also known as a Use-Case Diagram, was used to present the key components that needed to be considered during the execution of this project. Using the ideas generated from the Use Case diagram, an Entity Relationship diagram model is developed. The purpose of the Entity Relationship Diagram is to provide an overview of the project and illustrate how the project objectives were to be achieved based on the relationship between Graduate Students, Coordinator and the Administrator under the MSIS Department.

	MSIS Department	Graduate Student	Administrator	Plan of Study System
MSIS Department		admits	run by	
Graduate Student	belongs to	.		works on
Coordinator	Runs			uses
Plan of Study System		used by	run by	

Fig. 3 Plan of Study Entity Relationship Matrix

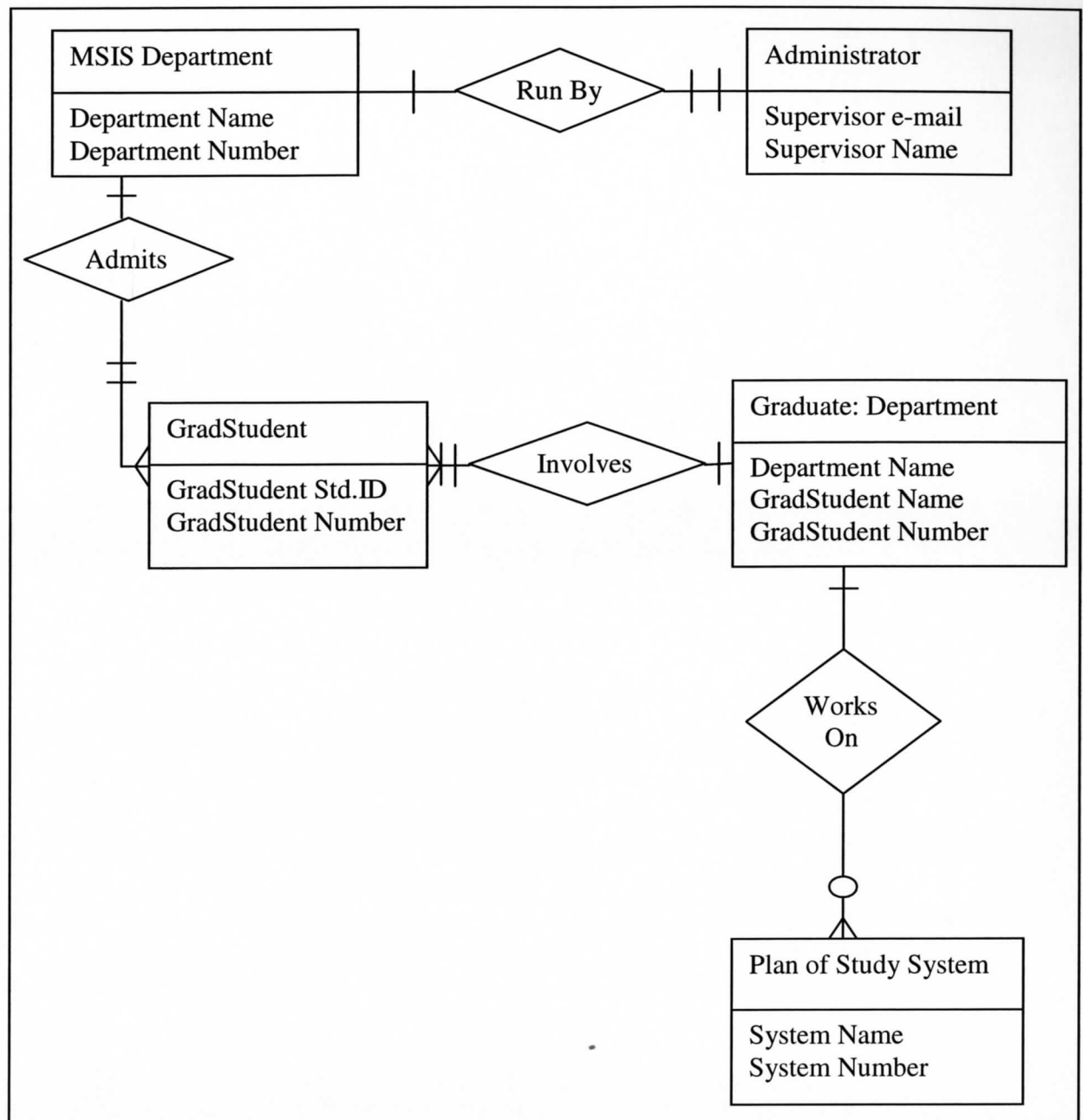


Fig. 4 Fully Attributed Entity Relationship Diagram

The Design Phase

The exceptional programmer might begin coding without a good design. Programmers who do so may find themselves going back to modify pieces of code they have already written as they move through the project. With a good design, the likelihood of this happening will be

reduced dramatically. The end result is a program that will behave in the way it is intended, and will generally have a shorter overall program development time.

Design in the SDLC encompasses many different elements. Here is a list of the different components that are designed in this phase:

- (a) Input
- (b) Output
- (c) Processing
- (d) Diagram

Requirements Statement for the program can only be given at the end of the design phase, and a rough sketch of what the user interface will look like is provided below. Other designed components are not presented until later in this project. Most programs are designed by first determining the output of the program. The reasoning here is that if the output of the program is known then the input needed to produce that output can be determined more easily. Once both the output from, and the input to the program are known, then the processing needed to be performed to convert the input to output can be determined. The information needed to be saved, and in what sort of file can be determined. While doing the Output and Input designs, more information will be available to add to the Requirements Statement. At this stage of the SDLC it is not necessary to discuss how or what the program will do, but to get the requirements down on paper.

The requirements for this project are as follows:

- (a) Online submission of Graduate Plan of Study.
- (b) Embedded Rotation in the Plan of Study: The Rotation will automatically be

embedded in the plan of study such that graduate students can complete their Plan of Study without any complexity.

- (c) Elimination of manual means of submission.
- (d) Graduate or Program Coordinator ease of Updating Rotation: With the aid of an Administrative Interface, Graduate Program Coordinator or Director will be able to update any changes that need to be implemented during any period.
- (e) Automatic e-mail notification to Coordinator of submitted plan of study: Program Coordinator will automatically be notified of a submitted plan of study once submitted.
- (f) Program Coordinator access to the database of submitted Plan of Study.
- (g) Flexibility: The automation will be flexible enough to adapt to changes both in the Graduate Plan of Study interface and the Administrative interface.
- (h) Ability to review prepared plan of study before submission: Graduate student would be able to review an already prepared plan of study and be sure that is what they want before submitting.

The interface design of the online plan of study is presented graphically in Chapter Three:

The Development Phase

During this phase the software is developed. This means that the actual coding of the program is actually being put together. In the Development phase, examination and re-examination of the Requirements Statement is needed to ensure that it is being followed to the letter. This is covered in chapter three.

The Implementation and Maintenance Phase:

Implementation and maintenance follows successful development.

2.3 Challenges

In as much as the automated Plan of Study will greatly reduce the amount of paper in use. Not only does this help the environment, it helps cut costs within the institution while improving graduate service through implementing the paperless office. Overall there is the need to consider the security and privacy issue;

- (a) How do we ensure that only the designated graduate students have access to the plan of study?
- (b) How does the MSIS graduate office know an electronic communication is authentic?
- (c) How does the office ensure that an electronic communication is sent and read only by the graduate coordinator or the program administrator?
- (d) How does the office ensure that graduate student's plan of study information is safe?

Safety measures are also put in place to ensure that graduate student's personal and confidential information are properly secured, safely delivered and stored. Additionally, the literature on the development and use of educational technology to support students during their graduate program are scarce. Developing an interactive web-based learning program is not only time consuming, but the task is daunting to anybody with experience in web-based design.

Chapter 3

Web-Based MSIS Plan of Study Design

3.1 Interface 1- Graduate Completion or Update Interface

This is the first interface where graduate student decides to complete a new plan of study or make adjustment to previously submitted plan of study.

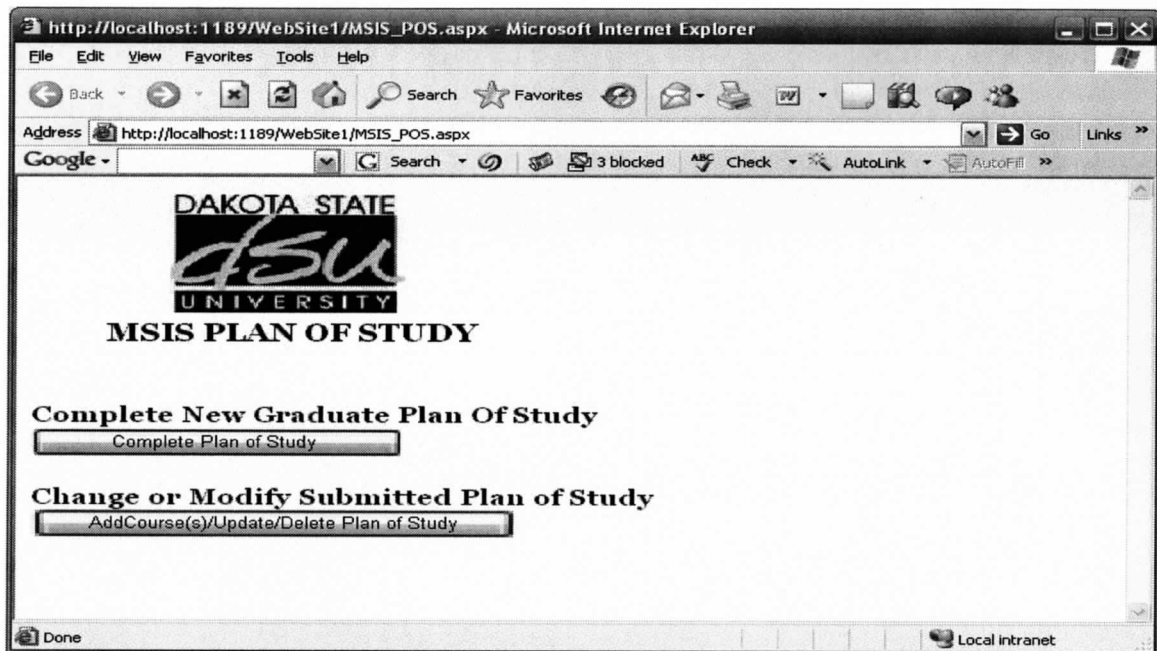


Fig. 4: Graduate Plan of Study Interface

From the Graduate Plan of Study Interface, there are two access points:

1. Complete Plan of Study
2. Modify Plan of Study

3.1.1. Complete plan of Study: When the first button “Complete Plan of Study” is clicked the graduate demographic interface comes up.

Graduate Demographic Interface: Graduate student complete their personal information, choose specialization (multiple selections allowed) and specify if they need to take knowledge course(s). The interface in Figure 5 shows ‘Electronic Commerce’ and ‘Network Administration

and security' specialization were selected by a named graduate student (Travis Johnson). All fields are required to be completed before graduate student click on the "Next" button to proceed.

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Plan_Of_Study.aspx

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Graduate Student Demographic Interface

Student Name: Travis Johnson Date: 09/12/2006 m/d/yyyy

College: College of Business and Information System Student ID: 1100112

Semester Officially Admitted to Program: Spring 2006 Semester Degree Expected: Fall 2009

Specialization: ☐ General ☐ Data Management ☒ Electronic Commerce ☐ Healthcare Information Systems ☒ Network Administration and Security

Advisor Name: Steven Mc Pheser Knowledge Course: ☒ Yes ☐ No

E-mail Address: tjohnson@pluto.dsu.edu

Next

Fig. 5: Demographic Interface

MSIS Course listing & completion interface: Successful completion of the demographic interface displays required courses to be completed by the graduate student based on specialization chosen and knowledge course(s) specified. Figure 6 lists course listings based on Electronic Commerce and Network Administration & security specializations chosen. Knowledge courses based on graduate specification are also included. It also displays the Plan of Study completion interface where selected courses are to be completed. When no selection is made in the course listing section, no course information (course code, course description, course method, course type, credit hour and semester/year taken) is displayed.

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1109/WebSite/Plan_Of_Study.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Required MSIS Course Listings. Select Courses to Complete Plan of Study

Course Code	Course Description	Course Type
Select INFS601	Information Technology Hardware & Software Concepts	knowledge
Select INFS605	Information Systems Programming	Knowledge
Select INFS612	Management and Evaluation of Information Systems	Knowledge
Select INFS720	Systems Analysis & Design Using CASE-Based Tools	Core
Select INFS724	Project and Change Management	Core
Select INFS730	Programming for Electronic Commerce	Core
Select INFS732	Electronic Commerce	Specialization
Select INFS734	Client Server Technologies	Specialization
Select INFS750	Telecommunications Technology & Network Management	Core
Select INFS752	Advanced Network Technology and Management	Specialization
Select INFS754	Network Security and Intrusion Detection	Specialization
Select INFS760	Database Design and Performance Analysis	Core
Select INFS762	Data Warehousing and Data Mining	Specialization
Select INFS780	Information Technology Strategy and Policy	Core
Select INFS788-a	Project Planning	Information Integration Project
Select INFS788-b	Project Implementation	Information Integration Project
Select INFS788-c	Project Continuation	Information Integration Project

MSIS Plan of Study Completion Interface

Student ID: 1100112

Course Code: Course Description:

Course Method: Course Type: Credit Hour:

Semester/Year Taken: Grade:

Local intranet

Fig. 6 MSIS Course listing & completion interface

Selection and Plan of Study completion: Fig 7 shows how courses are selected while revealing all course information based on course selected in the course completion interface. Once all course information is displayed in the completion interface, the graduate student decides on the semester and year they intend to complete the course. If they have a grade they fill in their grade else the grade field is left blank. Graduate student then click "Add button" to choose the course.

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Plan_Of_Study.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Required MSIS Course Listings. Select Courses to Complete Plan of Study

Course_Code	Course_Description	Course_Type
Select INFS601	Information Technology Hardware & Software Concepts	knowledge
INFS605	Information Systems Programming	Knowledge
Select INFS612	Management and Evaluation of Information Systems	Knowledge
Select INFS720	Systems Analysis & Design Using CASE-Based Tools	Core
Select INFS724	Project and Change Management	Core
Select INFS730	Programming for Electronic Commerce	Core
Select INFS732	Electronic Commerce	Specialization
Select INFS734	Client Server Technologies	Specialization
Select INFS750	Telecommunications Technology & Network Management	Core
Select INFS752	Advanced Network Technology and Management	Specialization
Select INFS754	Network Security and Intrusion Detection	Specialization
Select INFS760	Database Design and Performance Analysis	Core
Select INFS762	Data Warehousing and Data Mining	Specialization
Select INFS780	Information Technology Strategy and Policy	Core
Select INFS788-a	Project Planning	Information Integration Project
Select INFS788-b	Project Implementation	Information Integration Project
Select INFS788-c	Project Continuation	Information Integration Project

MSIS Plan of Study Completion Interface

Student ID: 1100112

Course Code: INFS605 Course Description: Information Systems Programming

Course Method: Not Required Course Type: Knowledge Credit Hour: 3

Semester/Year Taken: Fall 2007 Grade: Add Preview

Local intranet

Fig. 7 Selection and Plan of Study completion

Error detection notification: Once a course has been selected and added to the chosen courses, a notification message is displayed to alert the graduate student that the course is already selected; message "Already submitted: Select another course". This is shown in fig 8.

MSIS Plan Of Study - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:1189/WebSite1/Plan_Of_Study.aspx

Google Search blocked Check AutoLink Options

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Required MSIS Course Listings. Select Courses to Complete Plan of Study

Course_Code	Course_Description	Course_Type
Select INFS601	Information Technology Hardware & Software Concepts	knowledge
Select INFS605	Information Systems Programming	Knowledge
Select INFS612	Management and Evaluation of Information Systems	Knowledge
INFS720	Systems Analysis & Design Using CASE-Based Tools	Core
Select INFS724	Project and Change Management	Core
Select INFS730	Programming for Electronic Commerce	Core
Select INFS732	Electronic Commerce	Specialization
Select INFS734	Client Server Technologies	Specialization
Select INFS750	Telecommunications Technology & Network Management	Core
Select INFS752	Advanced Network Technology and Management	Specialization
Select INFS754	Network Security and Intrusion Detection	Specialization
Select INFS760	Database Design and Performance Analysis	Core
Select INFS762	Data Warehousing and Data Mining	Specialization
Select INFS780	Information Technology Strategy and Policy	Core
Select INFS788-a	Project Planning	Information Integration Project
Select INFS788-b	Project Implementation	Information Integration Project
Select INFS788-c	Project Continuation	Information Integration Project

MSIS Plan of Study Completion Interface

Student ID: 1100112

Course Code: Already Submitted: Select Another Course Description

Course Method Course Type Credit Hour

Semester/Year Taken 2007 Grade A Add Preview

Local intranet

Fig. 8: Error detection notification

Course Preview Interface: The graduate student can click on the “preview button” to preview Plan of Study. The preview page displays student information and Plan of Study. If successful completion is not made to Plan of Study and the graduate student clicks on “Submit button” there appears an Error message in red “You have courses left to complete before submitting (This is

displayed in fig. 9). Click on the back button and select highlighted courses to proceed”.

Exception are given to some courses which are knowledge courses (INFS601, INFS605, INFS612) and INFS788-c: Project Continuation, non completion of these course gives way to successful completion although at least one knowledge course must be selected if the graduate student chose to take knowledge course to finally submit. See figure 9.

Plan of Study Modification: Once all courses are successfully completed, the graduate student can make modification by clicking on the “edit button” and are only able to make changes to the credit hr, semester, year taken and grade as all other course information are error free. Fig 10 displays the modification interface.

MSIS PLAN OF STUDY

Ensure That All Your Required Courses Are Selected and Well Formatted before Submitting. Click here to make changes [Edit](#)
You have courses left to Complete before Submitting. Click on the back button and select the highlighted Courses to Proceed.

Student ID	Course Code	Course Description	Credit Hour	Course Type	Semester Taken	Year Taken	Course Method	Grade
Edit 1100112	INFS605	Information Systems Programming	3	Knowledge	Fall	2006	Not Required	
Edit 1100112	INFS612	Management and Evaluation of Information Systems	3	Knowledge	Spring	2007	Not Required	
Edit 1100112	INFS730	Programming for Electronic Commerce	3	Core	Spring	2007	Required	A
Edit 1100112	INFS732	Electronic Commerce	3	Specialization	Fall	2007	Required	A
Edit 1100112	INFS734	Client Server Technologies	3	Specialization	Spring	2007	Required	A
Edit 1100112	INFS750	Telecommunications Technology & Network Management	3	Core	Spring	2007	Required	A
Edit 1100112	INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2007	Required	A
Edit 1100112	INFS754	Network Security and Intrusion Detection	3	Specialization	Fall	2007	Required	A
Edit 1100112	INFS760	Database Design and Performance Analysis	3	Core	Fall	2007	Required	A
Edit 1100112	INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2007	Required	A
Edit 1100112	INFS780	Information Technology Strategy and Policy	3	Core	Spring	2007	Required	A
Edit 1100112	INFS788-a	Project Planning	1	Information Integration Project	Fall	2007	Required	A
Edit 1100112	INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2007	Required	
Edit 1100112	INFS724	Project and Change Management	3	Core	Fall	2007	Required	A

[Back](#) [Submit](#)

Student Information.
 Student ID: 1100112
 Student Name: Travis Johnson
 College: College of Business and Information System
 Date Admitted To Program: Spring 2006
 Date Expected To Graduate: Fall 2009
 Date: 09/12/2006
 Advisor Name: Steven Mc Pheser

Specialization chosen:
 General: False
 Data Management: False
 Electronic Commerce: True
 Network Administration & Security: True
 Healthcare Information Systems: False

Knowledge: True

Fig. 9: Course Preview Interface

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Plan_Of_Study.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Ensure That All Your Required Courses Are Selected and Well Formatted before Submitting. [Click here to make changes](#)

	Student ID	Course Code	Course Description	Credit Hour	Course Type	Semester Taken	Year Taken	Course Method	Grade
Edit	1100112	INFS605	Information Systems Programming	3	Knowledge	Fall	2006	Not Required	
Update Cancel	1100112	INFS612	Management and Evaluation of Information Systems	3	Knowledge	Spring	2007	Not Required	B
Edit	1100112	INFS730	Programming for Electronic Commerce	3	Core	Spring	2007	Required	A
Edit	1100112	INFS732	Electronic Commerce	3	Specialization	Fall	2007	Required	A
Edit	1100112	INFS734	Client Server Technologies	3	Specialization	Spring	2007	Required	A
Edit	1100112	INFS750	Telecommunications Technology & Network Management	3	Core	Spring	2007	Required	A
Edit	1100112	INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2007	Required	A
Edit	1100112	INFS754	Network Security and Intrusion Detection	3	Specialization	Fall	2007	Required	A
Edit	1100112	INFS760	Database Design and Performance Analysis	3	Core	Fall	2007	Required	A
Edit	1100112	INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2007	Required	A
Edit	1100112	INFS780	Information Technology Strategy and Policy	3	Core	Spring	2007	Required	A
Edit	1100112	INFS788-a	Project Planning	1	Information Integration Project	Fall	2007	Required	A
Edit	1100112	INFS788-b	Project Implementation	2	Information Integration Project	Fall	2007	Required	A
Edit	1100112	INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2007	Required	
Edit	1100112	INFS724	Project and Change Management	3	Core	Fall	2007	Required	A

Student Information.
 Student ID: 1100112
 Student Name: Travis Johnson
 College: College of Business and Information System
 Date Admitted To Program: Spring 2006
 Date Expected To Graduate: Fall 2009
 Date: 09/12/2006
 Advisor Name: Steven Mc Pherson

Specialization chosen:
 General: False
 Data Management: False
 Electronic Commerce: True
 Network Administration & Security: True
 Healthcare Information Systems: False

Knowledge: True

Fig.10: Plan of Study Modification

Completion Notification Interface: A message is displayed once all courses have been successfully completed. An e-mail is sent to the administrator of the successful completion of Plan of Study by the named graduate student. This is evidenced in Figure 11.

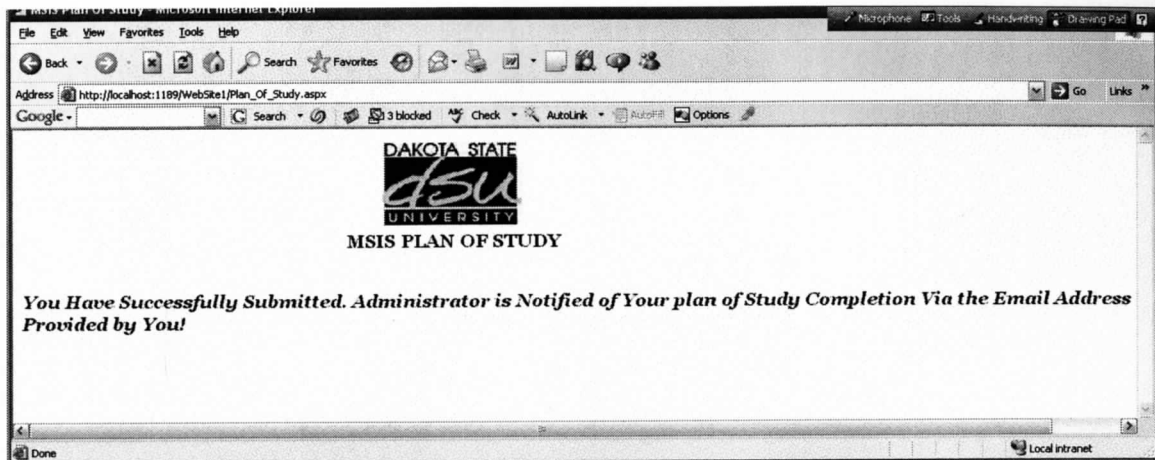


Fig. 11: Completion Notification Interface

Graduate students not only get the opportunity to complete a new plan of study but they can make changes to previously submitted plan of study. From the Graduate interface there is a second button “Addcourse(s)/Update/Delete Existing Plan of Study”. When the button is clicked the graduate Plan of Study modification interface comes up.

3.1.2. The modify button “Addcourse(s)/Update/Delete Existing Plan of Study”.

To make changes to existing plan of study, the modify button is clicked which reveals the interface for graduate student (see Fig. 12) to enter their Student ID; used to retrieve graduate students’ Plan of Study from the Database, Name; used to send notification message to administrator that the named graduate student has successfully modified Plan of Study and E-mail address; needed to send notification mail. There are two options. “Add Specialization to Plan of Study Button and Modify Existing Plan of Study Button”.

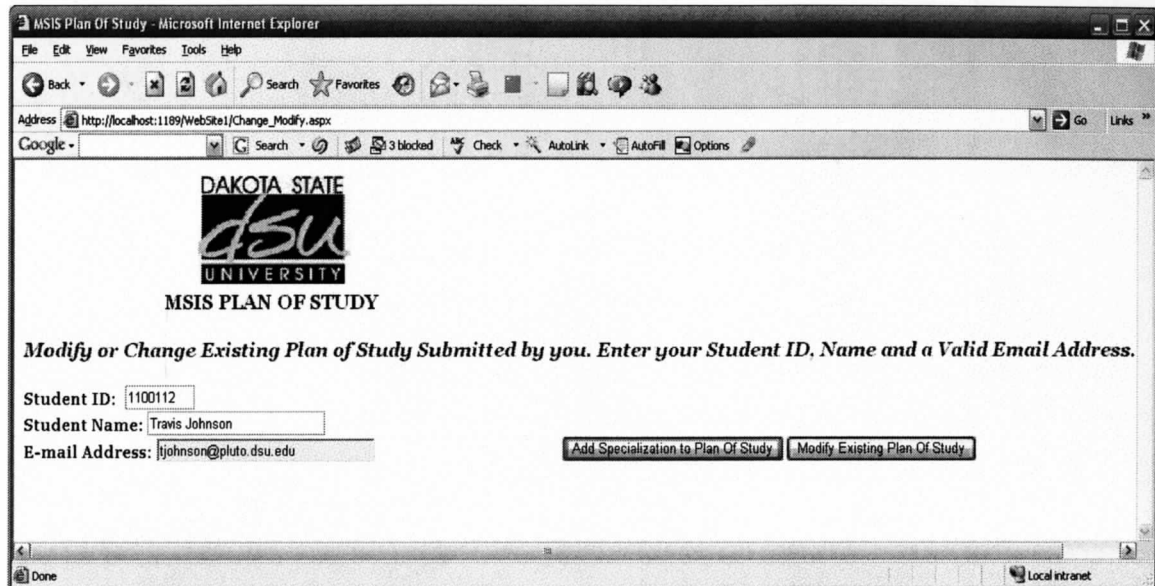


Fig. 12: Graduate Student Modification Page

Add Specialization to Plan of Study Button: The graduate student can make adjustment to their Plan of Study via this button. The demographic information of the graduate student is displayed (see Fig. 13: Demographic Information). They can edit their information or delete old information to complete a new Plan of Study.

Edit Information Interface


Graduate students are able to change their name, date, year they intend to graduate or add more specialization to existing Plan of study (see fig I4: Editing Interface). Once all information is successfully updated and additional specialization is checked, it notifies the graduate student of successful update and displays the courses to be completed in the Course listings and completion interface (See fig. 15: Course listing and completion interface) based on the added specialization. The graduate student is however required to complete the plan of study appropriately.

MSIS Plan Of Study - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:1189/WebSite1/Change_Modify.aspx Go Links

Google Search 3 blocked Check AutoLink AutoFill Options



MSIS PLAN OF STUDY

Update Student Information and Date to Reflect Current Information. If you choose, You can delete previous information to Complete a New Plan Of Study.

Student ID	1100112
Student Name	Travis Johnson
Semester Officially Admitted To Program	Spring
Year Officially Admitted To Program	2006
Semester Expected To Graduate	Fall
Year Expected To Graduate	2009
Date	09/12/2006
Advisor Name	Steven Mc Pheser
Specialization: Data Management	<input type="checkbox"/>
Specialization: Electronic Commerce	<input checked="" type="checkbox"/>
Specialization: General	<input type="checkbox"/>
Specialization: Healthcare Information Systems	<input type="checkbox"/>
Specialization: Network Administration And Security	<input checked="" type="checkbox"/>
Knowledge: Yes	<input checked="" type="checkbox"/>
Knowledge: No	<input type="checkbox"/>
Delete	
Edit	

Done Local intranet


Fig. 13: Retrieved Graduate Student Demographic Interface

MSIS Plan Of Study - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:1189/WebSite1/Change_Modify.aspx Go Links

Google Search 3 blocked Check AutoLink AutoFill Options

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MSIS PLAN OF STUDY

Update Student Information and Date to Reflect Current Information. If you choose, You can delete previous information to Complete a New Plan Of Study.

Student ID	1100112
Student Name	Travis Johnson
Semester Officially Admitted To Program	Spring
Year Officially Admitted To Program	2006
Semester Expected To Graduate	Fall
Year Expected To Graduate	2009
Date	09/12/2006
Advisor Name	Steven Mc Pheser
Specialization: Data Management	<input checked="" type="checkbox"/>
Specialization: Electronic Commerce	<input checked="" type="checkbox"/>
Specialization: General	<input type="checkbox"/>
Specialization: Healthcare Information Systems	<input type="checkbox"/>
Specialization: Network Administration And Security	<input checked="" type="checkbox"/>
Knowledge: Yes	<input type="radio"/>
Knowledge: No	<input checked="" type="radio"/>
<u>Delete</u>	
<u>Update</u> <u>Cancel</u>	

Fig. 14: Editing interface

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Change_Modify.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Required MSIS Course Listings. Select Courses To Complete Plan Of Study

Course Code	Course Description	Course Type
Select INFS601	Information Technology Hardware & Software Concepts	Knowledge
Select INFS764	Information Retrieval	Specialization
Select INFS766	Advanced Database	Specialization
Select INFS788-c	Project Continuation	Information Integration Project

MSIS Plan Of Study Completion Interface

Student ID: 1100112

Course Code: Course Description: [v]

Course Method: [v] Course Type: [v] Credit Hour: [v]

Semester Available: [v] Grade: A [v] Add Preview

Fig. 15: Course Listing and completion interface

- (a) **Completion of Plan of Study:** Fig. 16 shows courses selected in the course listing interface and display all course information in the course completion interface where graduate students complete their Plan of Study based on the semester and year available. All selected courses are highlighted to guide the graduate student with their completion.

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Change_Modify.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Required MSIS Course Listings. Select Courses To Complete Plan Of Study

Course Code	Course Description	Course Type
Select INFS601	Information Technology Hardware & Software Concepts	Knowledge
Select INFS764	Information Retrieval	Specialization
Select INFS766	Advanced Database	Specialization
Select INFS788-c	Project Continuation	Information Integration Project

MSIS Plan Of Study Completion Interface

Student ID: 1100112

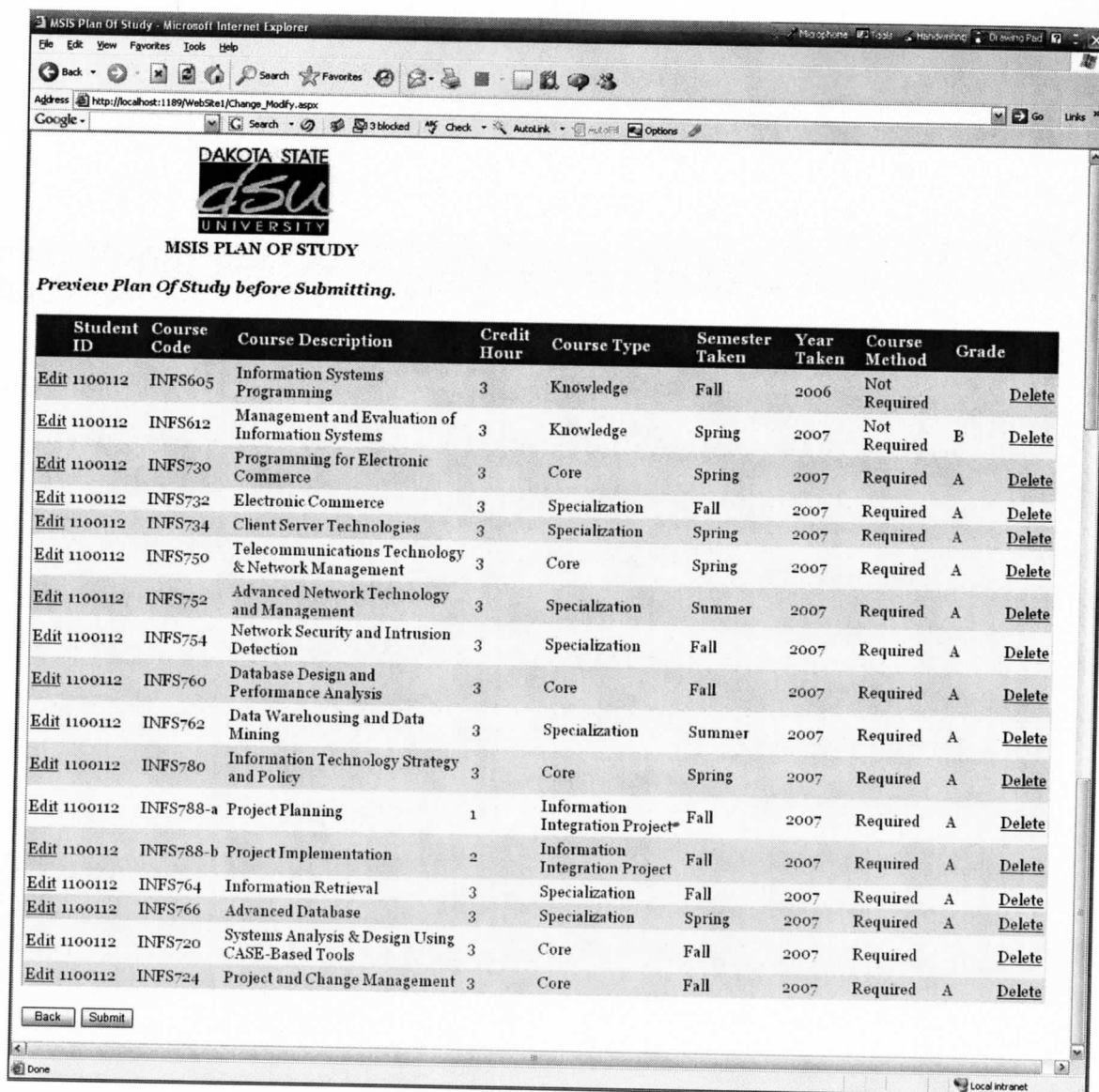
Course Code: INFS766 Course Description: Advanced Database [v]

Course Method: Required [v] Course Type: Specialization [v] Credit Hour: 3 [v]

Semester Available: Spring [v] 2007 [v] Grade: A [v] Add Preview

Fig. 16: Completion of Plan of Study

(b) **Preview Plan of Study:** The Plan of Study is previewed once completed. Graduate student can make changes only to the semester, year and grade based on available options in the dropdown list in the editing interface. They can also delete any course they do not intend to include in their Plan of Study. Fig 17 shows a complete listing of the Plan of Study in the preview interface.



	Student ID	Course Code	Course Description	Credit Hour	Course Type	Semester Taken	Year Taken	Course Method	Grade	
Edit	1100112	INFS605	Information Systems Programming	3	Knowledge	Fall	2006	Not Required		Delete
Edit	1100112	INFS612	Management and Evaluation of Information Systems	3	Knowledge	Spring	2007	Not Required	B	Delete
Edit	1100112	INFS730	Programming for Electronic Commerce	3	Core	Spring	2007	Required	A	Delete
Edit	1100112	INFS732	Electronic Commerce	3	Specialization	Fall	2007	Required	A	Delete
Edit	1100112	INFS734	Client Server Technologies	3	Specialization	Spring	2007	Required	A	Delete
Edit	1100112	INFS750	Telecommunications Technology & Network Management	3	Core	Spring	2007	Required	A	Delete
Edit	1100112	INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2007	Required	A	Delete
Edit	1100112	INFS754	Network Security and Intrusion Detection	3	Specialization	Fall	2007	Required	A	Delete
Edit	1100112	INFS760	Database Design and Performance Analysis	3	Core	Fall	2007	Required	A	Delete
Edit	1100112	INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2007	Required	A	Delete
Edit	1100112	INFS780	Information Technology Strategy and Policy	3	Core	Spring	2007	Required	A	Delete
Edit	1100112	INFS788-a	Project Planning	1	Information Integration Project	Fall	2007	Required	A	Delete
Edit	1100112	INFS788-b	Project Implementation	2	Information Integration Project	Fall	2007	Required	A	Delete
Edit	1100112	INFS764	Information Retrieval	3	Specialization	Fall	2007	Required	A	Delete
Edit	1100112	INFS766	Advanced Database	3	Specialization	Spring	2007	Required	A	Delete
Edit	1100112	INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2007	Required		Delete
Edit	1100112	INFS724	Project and Change Management	3	Core	Fall	2007	Required	A	Delete

Fig. 17: Preview Interface

Upon successful completion and preview of plan of study, the graduate student then clicks on the “submit” button to submit their information in the database. They are notified of their successful completion and that the Administrator is notified of their successful modification.

Delete Interface Button

Graduate students are also given the opportunity to delete previous information in order to complete a new Plan of Study. Once their demographic information is displayed, they can click on the “delete” button to delete, a warning message pops up to warn them of their action. See Fig. 18. Once the demographic information is deleted, the Plan of Study is displayed for deleting. Graduate students are required to delete all information to complete a new Plan of Study. See fig. 19 and 20.

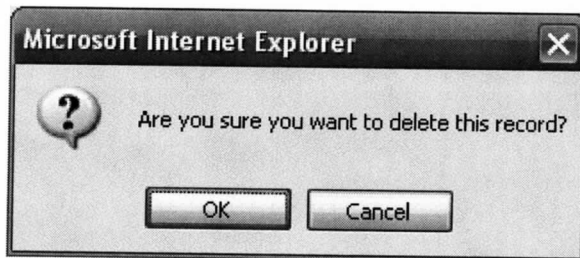


Fig. 18 Warning message

MSIS Plan Of Study - Microsoft Internet Explorer

Address: http://localhost:1189/WebSite1/Change_Modify.aspx

Google

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

You Must Delete All Courses To Proceed. Then Complete a New Plan of Study.

	Student ID	Course Code	Course Description	Credit Hour	Course Type	Semester Taken	Year Taken	Course Method	Grade
Delete	1100112	INFS605	Information Systems Programming	3	Knowledge	Fall	2006	Not Required	
Delete	1100112	INFS612	Management and Evaluation of Information Systems	3	Knowledge	Spring	2007	Not Required	B
Delete	1100112	INFS730	Programming for Electronic Commerce	3	Core	Spring	2007	Required	A
Delete	1100112	INFS732	Electronic Commerce	3	Specialization	Fall	2007	Required	A
Delete	1100112	INFS734	Client Server Technologies	3	Specialization	Spring	2007	Required	A
Delete	1100112	INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2007	Required	A
Delete	1100112	INFS754	Network Security and Intrusion Detection	3	Specialization	Fall	2007	Required	A
Delete	1100112	INFS760	Database Design and Performance Analysis	3	Core	Fall	2007	Required	A
Delete	1100112	INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2007	Required	A
Delete	1100112	INFS780	Information Technology Strategy and Policy	3	Core	Spring	2007	Required	A
Delete	1100112	INFS788-a	Project Planning	1	Information Integration Project	Fall	2007	Required	A
Delete	1100112	INFS788-b	Project Implementation	2	Information Integration Project	Fall	2007	Required	A
Delete	1100112	INFS764	Information Retrieval	3	Specialization	Fall	2007	Required	A
Delete	1100112	INFS766	Advanced Database	3	Specialization	Spring	2007	Required	A
Delete	1100112	INFS788-c	Project Continuation	1	Information Integration Project	Fall	2007	Required	A
Delete	1100112	INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2007	Required	
Delete	1100112	INFS724	Project and Change Management	3	Core	Fall	2007	Required	A

[Proceed](#)

Done

Local intranet

Fig. 19: Plan of Study Deleting Interface

MSIS Plan Of Study - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:1189/WebSite1/Plan_Of_Study.aspx

Google Search 3 blocked Check AutoLink Autofill Options

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Graduate Student Demographic Interface

Student Name Date m/d/yyyy

College Student ID

Semester Officially Admitted to Program Spring Semester Degree Expected Spring

Specialization:

☐ General ☐ Data Management ☐ Electronic Commerce

☐ Healthcare Information Systems ☐ Network Administration and Security

Advisor Name

Knowledge Course: ☐ Yes ☐ No

E-mail Address:

Next

Done Local intranet

Fig. 20: New Interface to Complete a New Plan of Study.

3.1.2. Modify Existing Plan of Study Button

Graduate Students are able to only modify their existing plan of study. They click on the “Modify” button where their demographic information is displayed except for specialization and knowledge courses. They cannot change their specialization and knowledge information because it is not displayed. Fig. 21 shows what they are able to make changes to.

If graduate student decides not to make changes to their information, they click on the “Update Course” button (see fig. 21) and their Plan of Study is displayed.

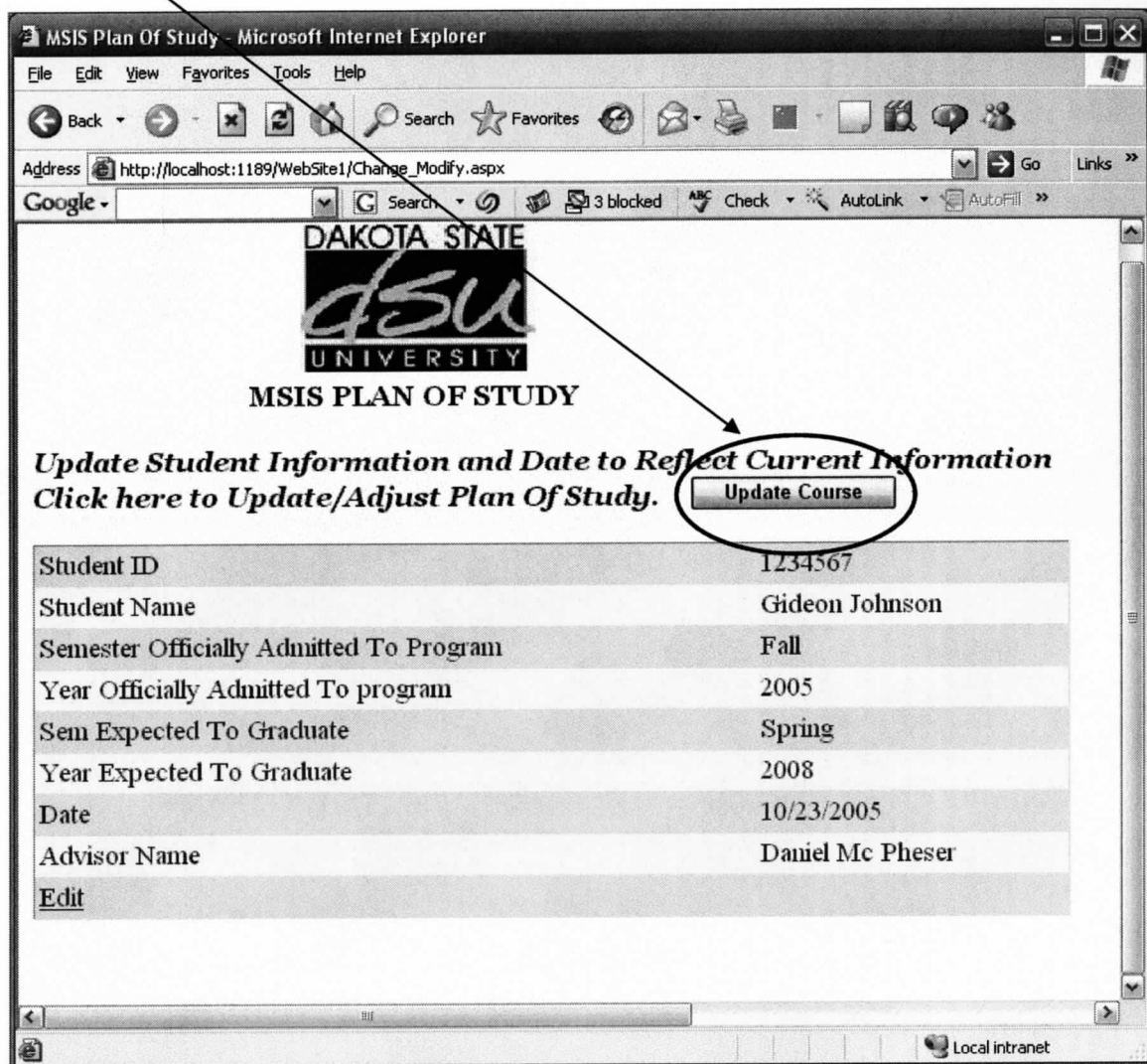


Fig. 21: Graduate student demographic modification interface

DAKOTA STATE UNIVERSITY

MSIS PLAN OF STUDY

Modify Existing Courses.

Student ID	Course Code	Course Description	Credit Hr	Course Type	Semester Taken	Year Taken	Course Method	Grade
Edit 1234567	INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2007	Required	Delete
Edit 1234567	INFS724	Project and Change Management	3	Core	Fall	2007	Required	A Delete
Edit 1234567	INFS730	Programming for Electronic Commerce	3	Core	Spring	2007	Required	Delete
Edit 1234567	INFS732	Electronic Commerce	3	Specialization	Fall	2007	Required	Delete
Edit 1234567	INFS750	Telecommunications Technology & Network Management	3	Core	Spring	2007	Required	Delete
Edit 1234567	INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2007	Required	Delete
Edit 1234567	INFS760	Database Design and Performance Analysis	3	Core	Fall	2007	Required	Delete
Edit 1234567	INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2007	Required	Delete
Edit 1234567	INFS780	Information Technology Strategy and Policy	3	Core	Spring	2007	Required	Delete
Edit 1234567	INFS788-a	Project Planning	1	Information Integration Project	Fall	2007	Required	Delete
Edit 1234567	INFS788-b	Project Implementation	2	Information Integration Project	Fall	2007	Required	Delete
Edit 1234567	INFS788-c	Project Continuation	1	Information Integration Project	Fall	2007	Required	Delete
Edit 1234567	INFS612	Management and Evaluation of Information Systems	3	Knowledge	Spring	2008	Not Required	A Delete
Edit 1234567	INFS734	Client Server Technologies	3	Specialization	Spring	2008	Required	A Delete
Edit 1234567	INFS764	Information Retrieval	3	Specialization	Fall	2008	Required	A Delete
Edit 1234567	INFS766	Advanced Database	3	Specialization	Spring	2008	Required	A Delete

[Close](#)

Fig. 22: Plan of Study Modification Interface

Whenever graduate students decide to make adjustment to their plan of study in the modification interface, they click on the “edit” button and they are able to adjust their plan of study based on available semester and year option. No adjustment can be made to the course code, description, course method, course type and student ID. Fig. 23 shows the updating interface.

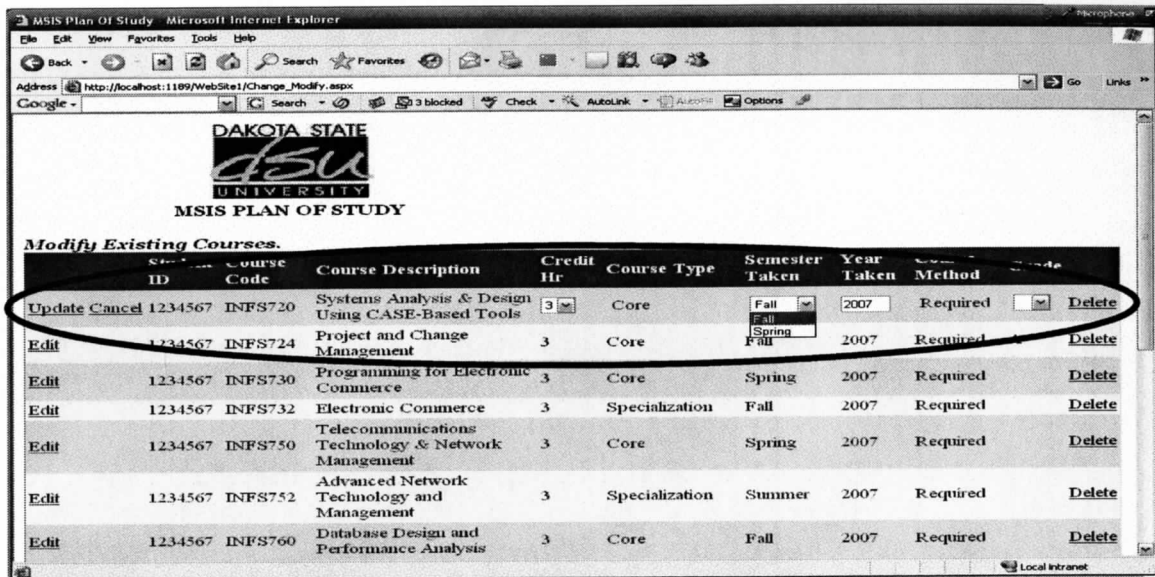


Fig. 23: Editing Plan of Study Interface

Appropriate measures have been put in place to ensure that graduate students do not submit their plan of study twice. The back browser has been disabled to ensure that graduate students are not able to go back once they have successfully completed or modified and submitted their plan of study.

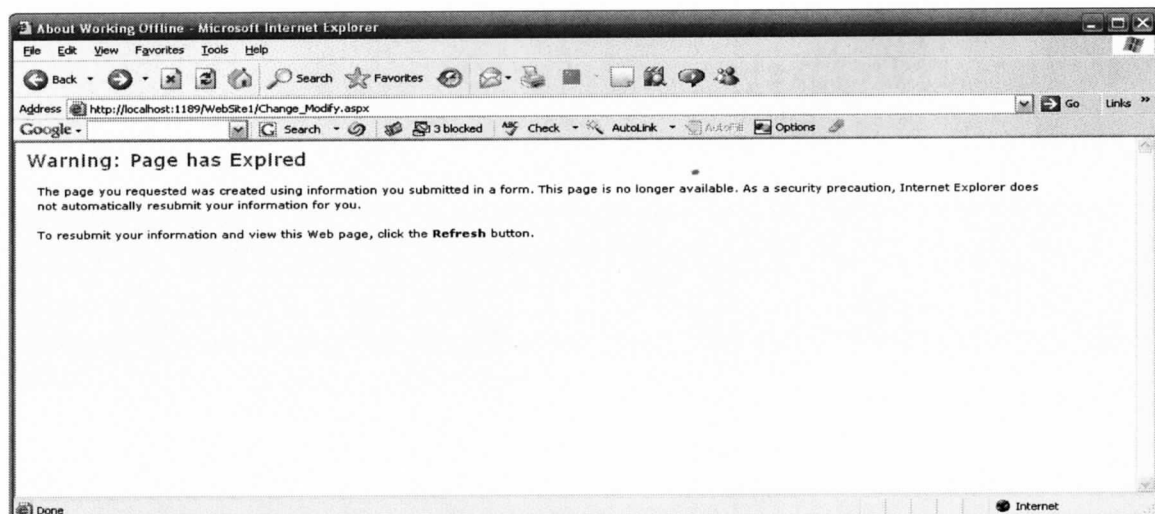


Fig. 24: Disabled back browser error message displayed

3.2. Interface 2: Administrative Interface

Administrator is required to login, he can register a new user and retrieve forgotten password.

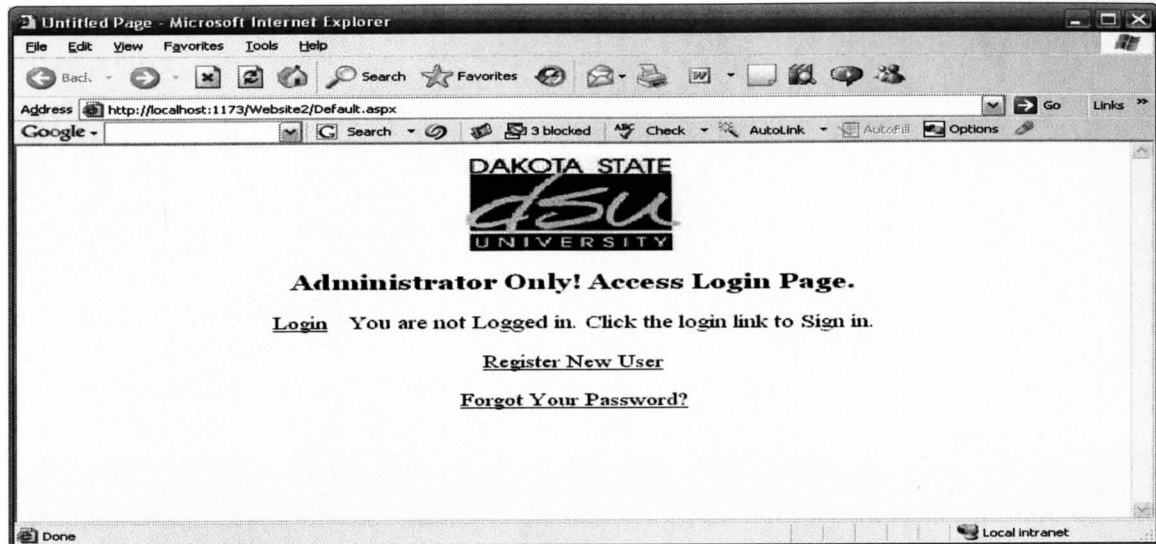


Fig. 25: Administrative Interface

Administrator logs in using required credentials (username and password). Fig.26 shows the log in interface



Fig. 26: Administrative log in interface

Administrator clicks on the “change password link” to make changes to password.

Password can only be changed upon successful log in to administrator’s page. Administrator clicks on the “Administrator page link” to have access to submitted plan of study, make modification to MSIS courses or insert courses to course listings in the database.

The “logout link”: Administrator logout using the logout link.

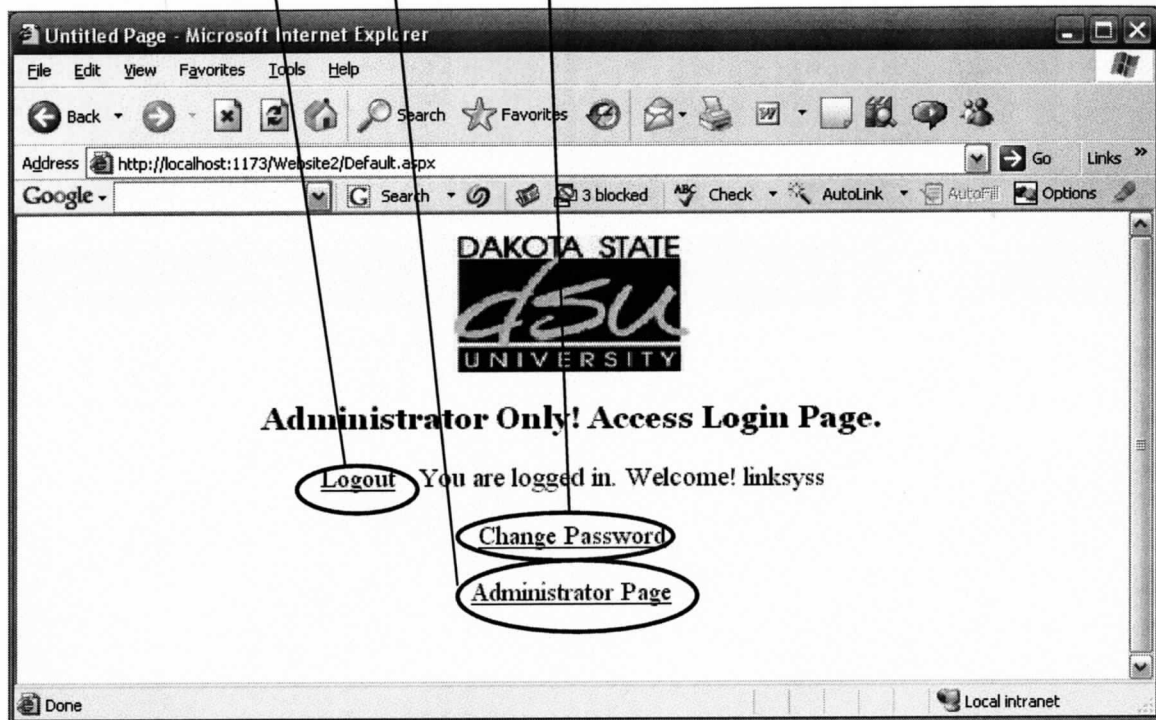


Fig. 27: Administrator page

Change Password Interface: Old password is entered in the old password field and new and confirm password are entered, once all fields are correctly entered, the old password is changed to the new one. The change password interface is displayed in Fig. 28.



Fig. 28: Password change interface

Administrative Page: Administrator can access the administrator's page to view submitted plan of study and make modification to course rotation as needed. Fig.29 displays the administrator-only access page.

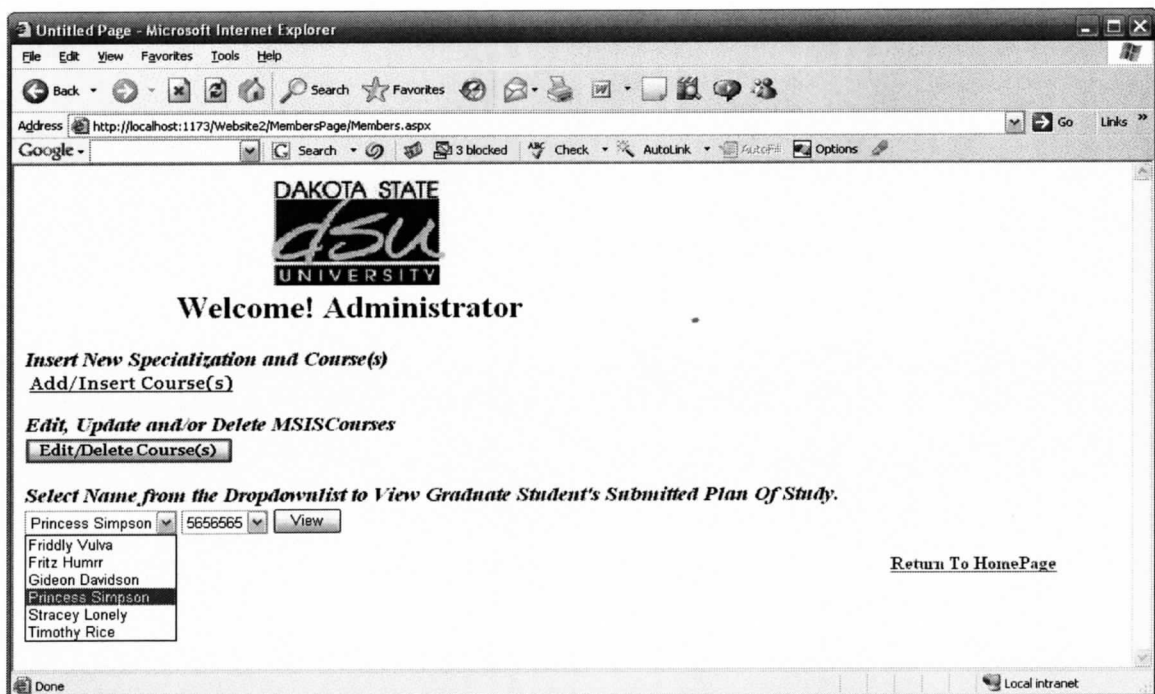


Fig. 29: Administrator Page Interface

Untitled Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:1173/Website2/Edit.aspx>

Google

DAKOTA STATE
dsu
UNIVERSITY

Welcome! Administrator

All fields are required, enter atleast N/A or Null

Course Code Course Description

Course Type Course Method Credit Hr

Semesters Available

Specialization

[Back](#) [Return To HomePage](#)

Local intranet

Fig. 30: MSIS Course information insertion interface

Untitled Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:1173/Website2/MembersPage/Members.aspx>

Google

DAKOTA STATE
dsu
UNIVERSITY

[Admin Page](#)

MSIS Course Listings Table: Edit/Delete Courses here.

	Course Code	Course Description	Credit Hr	Course Type	Course Method	Specialization	
Edit	INFS734	Client Server Technologies	3	Specialization	Required	Electronic Commerce	Delete
Edit	INFS762	Data Warehousing and Data Mining	3	Specialization	Required	Data Management	Delete
Edit	INFS764	Information Retrieval	3	Specialization	Required	Data Management	Delete
Edit	INFS750	Telecommunications Technology & Network Management	3	Core	Required	N/A	Delete
Edit	INFS766	Advanced Database	3	Specialization	Required	Data Management	Delete
Edit	INFS780	Information Technology Strategy and Policy	3	Core	Required	N/A	Delete
Edit	INFS788-c	Project Continuation	1	Information Integration Project	Required	N/A	Delete
Edit	INFS752	Advanced Network Technology and Management	3	Specialization	Required	Network Administration and Security	Delete
Edit	INFS752	Advanced Network Technology and Management	3	Specialization	Required	General	Delete
Edit	INFS788-a	Project Planning	1	Information Integration Project	Required	N/A	Delete

1 2 3

MSIS Course Availability Table

	Course Code	Semester Available	Year Available	
Edit	INFS601	Fall	2006	Delete
Edit	INFS605	Fall	2007	Delete
Edit	INFS612	Spring	2008	Delete
Edit	INFS720	Spring	2009	Delete
Edit	INFS724	Spring	2011	Delete
Edit	INFS730	Spring	2013	Delete
Edit	INFS732	Fall	2015	Delete
Edit	INFS734	Spring	2016	Delete
Edit	INFS750	Spring	2017	Delete
Edit	INFS752	Summer	2019	Delete

1 2 3 4

Local intranet

Fig. 31: MSIS Course information modification interface

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Print Mail

Address http://localhost:1173/Website2/MembersPage/Members.aspx

Google Search 3 blocked Check AutoLink AutoFill Options Go Links

DAKOTA STATE UNIVERSITY

Student ID	5656565
Student Name	Princess Simpson
Semester Officially Admitted	Spring
Year Officially Admitted	2006
Semester Expected To Graduate	Spring
Year Expected To Graduate	2006
Date	12/12/2006
Advisor Name	dfghj
Specialization: Data Management	<input checked="" type="checkbox"/>
Specialization: Electronic Commerce	<input type="checkbox"/>
Specialization: General	<input type="checkbox"/>
Specialization: Healthcare Information Systems	<input type="checkbox"/>
Specialization: Network Administration & Security	<input checked="" type="checkbox"/>
Knowledge: Yes	<input checked="" type="checkbox"/>
Knowledge: No	<input type="checkbox"/>

Course Code	Course Description	Credit Hour	Course Type	Semester Taken	Year Taken	Course Method	Grade
INFS720	Systems Analysis & Design Using CASE-Based Tools	3	Core	Fall	2020	Required	A
INFS724	Project and Change Management	3	Core	Fall	2020	Required	A
INFS730	Programming for Electronic Commerce	3	Core	Spring	2020	Required	A
INFS750	Telecommunications Technology & Network Management	3	Core	Spring	2020	Required	A
INFS754	Network Security and Intrusion Detection	3	Specialization	Fall	2020	Required	A
INFS760	Database Design and Performance Analysis	3	Core	Fall	2020	Required	A
INFS764	Information Retrieval	3	Specialization	Fall	2020	Required	A
INFS766	Advanced Database	3	Specialization	Spring	2020	Required	A
INFS780	Information Technology Strategy and Policy	3	Core	Spring	2020	Required	A
INFS788-a	Project Planning	1	Information Integration Project	Fall	2020	Required	A
INFS788-b	Project Implementation	2	Information Integration Project	Fall	2020	Required	A
INFS788-c	Project Continuation	1	Information Integration Project	Fall	2009	Required	A
INFS732	Electronic Commerce	3	Specialization	Fall	2018	Required	A
INFS752	Advanced Network Technology and Management	3	Specialization	Summer	2018	Required	A
INFS762	Data Warehousing and Data Mining	3	Specialization	Summer	2018	Required	A

Local intranet

Fig. 32: Retrieved graduate student submitted Plan of Study sample

A screenshot of a web browser window displaying the registration page for Dakota State University. The browser's address bar shows the URL `http://localhost:1173/Website2/Register.aspx`. The page features the Dakota State University logo at the top, which includes the text "DAKOTA STATE" and "UNIVERSITY" flanking a stylized "dsu" script. Below the logo, the heading "Sign Up for Your New Account" is centered. The registration form consists of several labeled input fields: "User Name:" with the value "swampson", "Password:" with masked characters, "Confirm Password:" with masked characters, "E-mail:" with the value "mingy@pluto.dsu.edu", "Security Question:" with the value "Pet Name", and "Security Answer:" with the value "Prisley". A "Create User" button is positioned below the security question fields. At the bottom of the form area, there is a link that reads "Return To HomePage". The browser's status bar at the bottom indicates "Done" and "Local intranet".

Fig. 33: Register New User Interface

A screenshot of a web browser window displaying the forgot password page for Dakota State University. The browser's address bar shows the URL `http://localhost:1173/Website2/RecoverPassword.aspx`. The page features the Dakota State University logo at the top, which includes the text "DAKOTA STATE" and "UNIVERSITY" flanking a stylized "dsu" script. Below the logo, the heading "Forgot Your Password?" is centered, followed by the instruction "Enter your User Name to receive your password." The form contains a "User Name:" label and an input field with the value "linksys". A "Submit" button is located to the right of the input field. Below the form, there is a link that reads "Return Home". The browser's status bar at the bottom indicates "Local intranet".

Fig. 34a: Forgot password interface

The screenshot shows a web browser window with the address bar displaying `http://localhost:1173/Website2/RecoverPassword.aspx`. The page features the Dakota State University logo at the top. Below the logo, the text reads: "Identity Confirmation", "Answer the following question to receive your password.", "User Name: linksyss", "Question: name", and "Answer: prisley". A "Submit" button is located to the right of the answer field. At the bottom, there is a "Return Home" link. The browser's status bar at the bottom indicates "Local intranet".

Fig. 34b: Password Identification Interface

Notification of successful retrieval of password appears. A new assigned password is sent to user's e-mail address. The new password will have to be used to log in. Users can change password once log in attempt is successful.

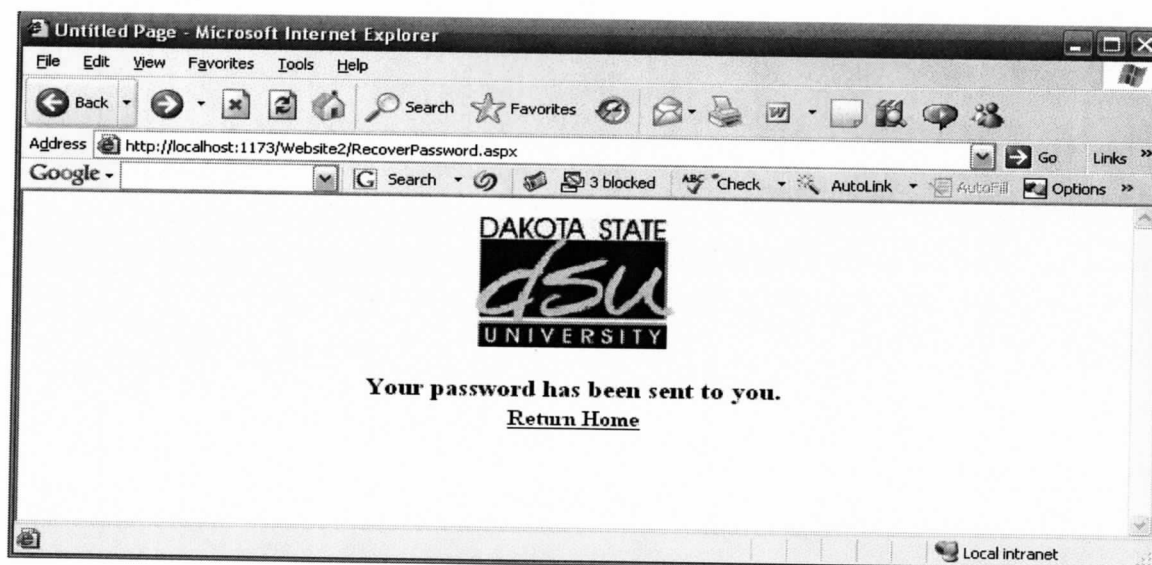


Fig. 35: Notification message of new password sent

3.3. System Engineering – Coding:

The Source code of the Plan of Study system can be found in the Appendix.

3.4. System Testing

The system has been designed and successfully tested.

3.5. System Modification and Testing Continue

Various modification has been made to ensure that the system is effectively up and running. Appropriate validation controls are incorporated to enhance ease of completion and modification of the plan of study by graduate student.

Chapter 4

Implementation and Documentation

4.1. Implementation Requirements

The implementation requirement outlines the necessary steps to be taken in order to successfully put to use the online MSIS Plan of Study. Following the design, development, and testing process in Chapter 3, a thorough understanding of the designed (MSIS Plan of Study) is very important to aid proper integration of the system into graduate program system at Dakota State University.

The implementation strategies are spelt out below highlighting ways to make the best use of the new MSIS Plan of Study System.

- (a) **The MSIS Online System:** The project was designed for the MSIS program alone. This program will need modifications to be applied to any other program either at the graduate or undergraduate levels.
- (b) **Graduate Student Log-in Interface:** The 'Log-in' interface for graduate student needs to be created and linked directly to the graduate student registration database. Student will then only be given authorization to access or log into the webpage once they are fully registered as a graduate student at Dakota State University.
- (c) **Tools and Programming Languages:** This project was carried out using ASP.Net and ADO.Net. The programming languages used are Visual Basic, XML and HTML. To implement this system would mean to ensure that the script can be parsed by the host engine.

- (d) **Database:** This system was designed and scripted to execute with Microsoft Access relational database management systems. In implementing this project, database access and the mapping of the access path has to be adjusted to the host database.
- (e) In addition, any drastic change from the present MSIS program might require some maintenance of the system to suit the new change or adjustment.
- (f) The following miscellaneous but necessary operations are imperative to aid effective functionality of the system.
 1. Train Administrator how the system works and how to use the new system.
 2. Enter new courses and specialization into the system as needed via Administrative Interface
 3. Conduct system maintenance according to a documented maintenance schedule required within the graduate administration department
 4. Ensure back-up procedures are in place and backup the system at regular interval.
 5. Maintain the system as appropriate
 6. Implement any or all approved enhancements.

4.2. Documentation

The Online MSIS Plan of Study System has been designed by putting into consideration the MSIS graduate program at Dakota State University. Its aim, primarily, is to ease the burden of current manual means of printing and completing the Plan of Study with the complexity of the MSIS Course Rotation. To eliminate the setbacks the manual mode of completing the MSIS Plan of Study post to graduate students and administrator, the online MSIS Plan of Study System was designed with two main interfaces:

Interface1: Graduate Student Plan of Study Interface

Interface2: MSIS Administrative Interface

This website is backed by a database designed and developed using Microsoft Access relational database management system. The website design and the database structure are documented to give clear understanding of the functionalities of the Web based Plan of Study system.

Interface1: Graduate Plan of Study Interface

This interface was designed for graduate students to complete and update their plans of study. In order to achieve this purpose, the first page comprise of two access points:

- (a) Complete New Plan of Study**
- (b) Modify Existing Plan of Study.**

Complete New Plan of Study: This is the first access point on the first (MSIS_POS) interface. Students who have been admitted into the MSIS graduate program at Dakota State University are given access to complete their plan of study online. Graduate student clicks on the “New” button which opens up graduate student’s demographic interface where they would have to:

- (a)** complete their personal information
- (b)** choose their specialization(s) and
- (c)** specify if they need to take any knowledge courses or not.

The following are required fields in the demographic interface.

1. Personal Information; Student Name, Student ID, College, Date (of completing the Plan Of Study), Date Officially Admitted to Program, Date Expected to Graduate, Advisor Name and E-mail address.

2. Choice of Specialization: Student can select one or more specializations depending on their plans for the graduate program at Dakota State University.

3. Choice of Knowledge Courses: Students are also required to specify if they need to take any knowledge required course(s) before they proceed.

Proper validation controls have been incorporated into the program to ensure that the required and the correct information are being supplied in the fields. The following appropriate validation controls have been incorporated into this phase of the Plan of Study.

a) Required Field Validation Control: This control ensures that all required fields are properly completed without skipping any before students can proceed. This would prevent a deliberate or negligent omission and ensures the integrity of the data we have in the database.

b) Regular Expression Validation Control: Ensures that student ID is numeric and not more or less than seven (7) digits before proceeding to complete the Plan of Study. This control is set to the email address field as well to ensure that student email address is entered in the correct format before student proceeds. The e-mail address would be used to notify the Administrator of a successful completion of a Plan of Study.

c) Custom Validation Control: This control ensures that graduate students choose at least one specialization and specify if they need to take any knowledge course(s) before they proceed.

All three validation controls have been set to ensure that graduate students do not skip any field while completing their demographic information and that they specify if they need to take knowledge course(s) before they can proceed to complete their plan of study. Graduate

student must also select at least one specialization. The specialization and knowledge courses chosen will determine the course listings presented to student to register.

Upon the completion of student's demographic information and based on the specialization chosen. The graduate student clicks on the "Next" button which takes him/her to the MSIS course listing page where they are to complete their plan of study. Complete listings of the courses they are required to take are displayed; graduate student then select each course and choose the semester and year they intend to complete the courses. There is a "Preview" button for graduate students to preview their plans before the final submission.

The following necessary validation controls were also put in place to ensure the integrity of the data in the database from the course listing page and to ensure that students choose the semester and year they intend to complete their chosen courses:

1. As the graduate student selects the courses in each row of the courses listed, each row selected highlights itself to guide the graduate student on which course(s) have been selected and the next to be selected.
2. Any selected and added courses cannot be selected and added again; avoiding double selection. Any attempt to select any course twice will fail and the following message will be displayed: "Already selected. Select another course". This is to avoid duplicity and ensure correctness.
3. Required Field Validation Control: This control ensures that all fields are properly completed without skipping any before students can proceed further. This would prevent a deliberate or negligent omission.
4. In addition, the course listing and completing interface have the necessary dropdown list controls that repopulate data from the database based on the chosen

courses by the student in the course listing section. This basically reduces the typing that students have to do. This control automatically brings out data based on course code selected and populates the course description, credit hour, course type, course method and availability. Thus eradicating the use of course rotation by students because the fields show exactly what courses are available in which semester without the rotation in site.

When student finally complete their plan of study, they click on the “Preview” button which takes them to the course preview page. Student can preview their completed plan of study to ensure that they have correctly and appropriately chosen the courses, semesters and years. However, student can edit or make adjustment to their courses based on how they choose to complete their plan of study.

The following precautionary measures have also been put in place in the preview page to ensure that the Course Rotation is strictly adhered to:

- (a) Irrespective of the fact that they can make changes to the Year and Semester, students cannot make any changes to the Course Code, Course Description, Course Type and Course Method thus giving room for accuracy and clarity.
- (b) Only the semester, year and grade are available for editing; the course rotation has been successfully integrated to show students the options they can choose from the database bound dropdown list showing the semester in which the course are available to be taken and also the credit hour available.
- (c) Graduate student’s personal information is displayed for preview: A complete display of graduate student information is shown for preview so student can make adjustment just incase they need to. The specialization chosen and knowledge course(s) are also displayed.

After the preview and successful completion of the plan of study, the graduate student then clicks on the “Submit” button to submit their completed Plan of Study. There are appropriate validation controls in place to safeguard the graduate student from a deliberate or negligent incompleteness of their plan of study. Such controls are as follows:

- (a) An incomplete notification message pops up if graduate students are yet to select required courses thus preventing the graduate student from not properly completing the Plan of Study.
- (b) Any course(s) left unselected is highlighted, thus pointing to the graduate student of the course(s) left to be selected, this helps prevent student from searching for the remaining required course or courses left to complete.
- (c) Extra care have also been put into consideration to ensure that graduate student complete the knowledge courses if specified before submitting.
- (d) Exception is also given to INFS788-c (Information Integration Project Continuation) since not all graduate students will take Information Integration Project Continuation. Without selecting the INFS788-c, the student can successfully submit.
- (e) A “Back” button control is also put in place for the student to navigate easily to the course listing and completion page without clicking the “back” button from the browser, making it really easy to trace and follow up on where they left off with the Plan of Study. The course listing get highlighted showing what course was selected last.

When all necessary courses have been completed and the required graduate student information successfully entered, the student then clicks on the “Submit” button. On clicking the “Submit” button the following actions are ensured:

Student is taken to another page where they are notified of the successful completion of their plan of study and they are notified that the administrator is notified of their successful completion via the e-mail address provided by graduate student.

- (a) Graduate student's information and courses are submitted directly into the database which will be available for the administrator to view and also for update by graduate students as they deem fit.
- (b) Administrator is notified via e-mail provided by student while completing their plan of study; stating that a particular graduate student has successfully completed a Plan of Study.
- (c) Measures have been put into place for more than one administrator to receive a notification e-mail upon successful completion of a plan of Study. Depending on the graduate program office policy, the interface has been designed to take more than one recipient e-mail address, so recipient(s) can be included and deleted as necessary.
- (d) Disabled Back Browser: In order to avoid re-submission or manipulation of student information and courses, students are unable to go back even when they click on the back browser.

Modify Plan of Study: This is the second access point on the first (MSIS_POS) interface.

Graduate students must have completed a Plan of Study to change or modify existing information and or courses.

On clicking the **Modify Plan of Study** button, students are taken to the first page of the Plan of Study Modification interface. There are three fields that are required in order to make adjustment to the existing plan of study:

1. Student ID: Required to retrieve student's previous information and their courses from the database.
2. Student Name: The name is required to send a notification e-mail to the administrator upon successful completion or update to Plan of Study by graduate student.
3. E-Mail Address: This address is used to send notification email to the administrator alerting him/her that a named graduate student has made a change/update to previously submitted plan of study.

Once all necessary fields in the Plan of Study modification interface have been correctly entered, there are two (2) buttons available providing different modification options. Each of the two buttons redirect student to make modification to existing Plan of Study. Their functionalities are explained thus:

Add Courses to Plan of Study

Modify Existing Plan of Study

- (1) **Add Courses to Plan of Study**: This is mainly for adding courses and specialization to the existing plan of study. Successful completion of the required information takes students to where they can make adjustment to their personal information, and also make changes to previous specialization and knowledge course. Necessary control such as the following have been put in place to aid the adjustment:
 - (a) Required Field Validation Control: No field can be left blank, all fields are required in order for student to add courses or make any adjustment.

- (b) Automatic Update of Information in database: Once the “Update” button is clicked, all modified information are updated and securely submitted directly into the database.
- (c) Specialization and Knowledge Course Update: Graduate student can make changes to previous specialization. If they choose to add to the previous specialization they are taken to the MSIS Course Listing Page to complete the list of courses available based on the specialization or knowledge course updated.

The graduate student cannot directly make adjustment to the existing plan of study because the Plan of Study is not revealed until all courses displayed in the MSIS Course listing page which is based on the added specialization and knowledge course(s) are completed. Thus, the graduate student must select to take more specialization or knowledge courses before they can proceed. If the graduate student however does not intend to add any specialization or knowledge course to the existing plan of study but only want to modify the semester, year and grade they will have to click on the **Modify Existing Plan of Study Button** rather than the **Add Courses to Plan of Study Button**.

Successful update of specialization requires that the graduate student completes the MSIS Course(s) displayed. It is important to note that courses displayed for the graduate student is based on the addition made to their specialization and existing Plan of Study. With the aid of SQL query, MSIS courses displayed are properly structured and filtered from data in the database based on the previously submitted courses.

The form and process has been simplified to ensure quick, error free and less cumbersome completion; leaving the graduate student with little effort to complete the Plan of Study. The course rotation has been successfully embedded. Course description, credit hours,

course type and course method also repopulate themselves on the page directly from the database without any keystroke by the student. What the graduate student needs to do is to select courses and add them to the course completion page upon satisfactory compliance with the credit hour, semester and year they intend to take the courses. Graduate students are given the opportunity to preview courses including previous courses in the database. They can edit and or delete any course(s) as need be.

- (a) Editing Plan of Study: The course rotation has been incorporated, all required course information cannot be updated except if students choose to delete them.
- (b) Deleting Courses in Plan of Study: If they choose to delete any row of course(s), proper precaution is put in place to ensure they do not mistakenly delete useful course or record(s). A message pops up to alert student if they actually want to delete the course. They can choose to cancel or delete anyway, and action will effectively take place based on their choice.

There is a “Submit” button to be clicked once the Plan of Study has been successfully modified. The button takes the graduate student to the final notification message and they are notified that their modified plan of study has been updated and the administrator notified via the e-mail provided.

2. **Modify Existing Plan of Study Button:** In order to update the existing plan of study, the graduate student clicks on this button and all graduate student’s personal information is displayed. All information displayed can be updated. It is important to note that courses cannot be added in this interface. No provision has been made for adding specialization or knowledge course(s). To add specialization however, the “**Add Courses to Plan of Study**” button must be clicked.

The graduate student can make adjustment to the demographic form with no fields left blank. The “**Update Course(s)**” button can be clicked if no personal information needs updating. If the Update Course(s) button is clicked the student’s plan of study is displayed for modification. If any modification is made to the personal information fields and the update button is clicked students are notified of successful update and are immediately redirected to the Plan of Study Course Listing page where they could make adjustment to previously submitted Plan of Study.

Appropriate controls are also put in place to make sure that graduate students leave no field blank either intentionally or unintentionally. Date field must also be entered in the correct date format before proceeding. The course rotation has been incorporated to aid ease editing, update and smooth completion.

There is a close button that can be clicked any time once the Plan of Study has been successfully completed which takes student to the final notification message, where they are notified that their modified Plan of Study has been successfully updated and that the Administrator is notified of the successful update to the Plan of study by the named student via the e-mail provided.

Interface 2: MSIS Administrative Interface:

This interface consists of Administrator-only access login page. It is essential that only an approved person or administrator can view this webpage because of the sensitivity of information involved. As a result, a secured log-in interface is created to ensure that access is given to an approved person. To ensure approved limited access to the MSIS Administrative interface the following had to be implemented:

1. Configuring the application to include ASP.NET membership services, and ability to define users.
2. Using login controls to get user credentials and to display information to logged-in users.
3. Protecting Administrator's pages so that only logged-in users can have access.
4. Allowing new users to register at the site, if and when needed.
5. Allowing a new Administrator or any approved person to change and reset their passwords.

The use of the MSIS Administrative interface is as follows;

- a. **Authentication and Access Authorization:** To ensures that Administrator have access to Plan of Study submitted or make adjustment to existing MSIS Courses, a registration page has been created to secure and restrict unwanted access to the webpage. Administrators are required to register and choose a log in Username and Password that would be used to log in anytime they choose to access the webpage.
- b. **Retrieving Submitted Plan of Study:** Submitted plan of study can be viewed by the Administrator or any approved person.
- c. **Update/Modify Courses:** The MSIS Administrative interface has been created so that updates can be made to the MSIS Courses in the database by the Administrator so as to ensure scalability and up to date information in the course rotation embedded into the program.

The MSIS Administrator interface has 3 links to enhance the authentication process. They are:

1. Log in: Authorized person click on the link and sign in using their registered Username and Password. Once the Username and password are correctly entered, they are given access to view the Administrator page.
2. Register New User: Authorized users register using this link. A registration interface is displayed where the username, password, confirm password, email address, secret question and answer are required to be completed to register the user(s). Upon successful registration, their Username and Password remains valid and can used to log in anytime.
3. Forgot Your Password: All registered Administrator are able to retrieve their forgotten password. All they have to do is to enter their username, security question and answer. Once the administrator's entry is valid a new password is sent immediately to the e-mail address provided upon registration.

Successful registration takes the user to the Admin. Page, where they can change their password, add, edit or delete courses from the existing course rotation. More importantly the Administrator can view graduate student's submitted Plan of Study. The Administrator's page is thus a secured webpage that can only be view by authenticated and authorized person. There are four links in the Administrator's Page which are as follows:

1. **Change Password:** Administrator can change their old password and they will be required to enter their old password, new password and confirm new password in the open fields. Once all required fields are entered correctly, Administrator old password is immediately changed to the new password and they can sign in to access the Administrator webpage using the new password.
2. **Add/Insert Course(s):** This link takes the Administrator to an interface to add new courses to the MSIS Course Rotation. There are necessary controls in place to ensure

that all required fields are not left blank. Administrator is required to complete the page by providing values to the Course Code, Course Description, Credit Hour, Course Type, Course Method, Specialization and Semester Taken fields. All field require an entry, at least a N/A must be entered instead of leaving a field blank.

3. **Edit/Update Courses:** Administrator is given the opportunity to view the whole MSIS courses in a table format and more importantly to edit and update courses when and as needed. Also all fields within the updating interface are required to be filled. Course updated are automatically integrated into the web based Plan of Study interface where graduate student complete their plan of study.

4. **View Submitted Plan of Study:** Administrator is able to view the graduate student's submitted Plan of Study. Appropriate measure is put into place to make the view process simple for the administrator. A dropdown list that is database bound to the submitted student names in the MSIS_POS database is provided to enable the administrator to select student name in order to view their submitted Plan of Study, more importantly the Plan of Study can also be printed.

4.3. **Database Used: Microsoft Access Database management System.**

The dynamic creativity of the web based Plan of Study system would not have been achieved without the incorporation of a database. Microsoft Access database management system has been used because it offers the flexibility needed in this regard and has been successfully incorporated to achieve the desired result needed. It offers the electronic filing system that represents collection of information (**MSIS Courses, Course Availability, Student Information and Student Courses**) and organized data in such a way that can easily be

accessed, managed, and updated. To enhance maximum use of the data in the database by the web based Plan of Study, a standard language (SQL - Structured Query Language) is integrated into the system. The database is organized by fields, records, and tables. A field representing single piece of information; a record, one complete set of fields; and a table, a collection of records. The database used to achieve this project is named MSIS_POS and it consist of 4 (Four) tables which are represented in an entity relationship evidenced in Fig. 36.

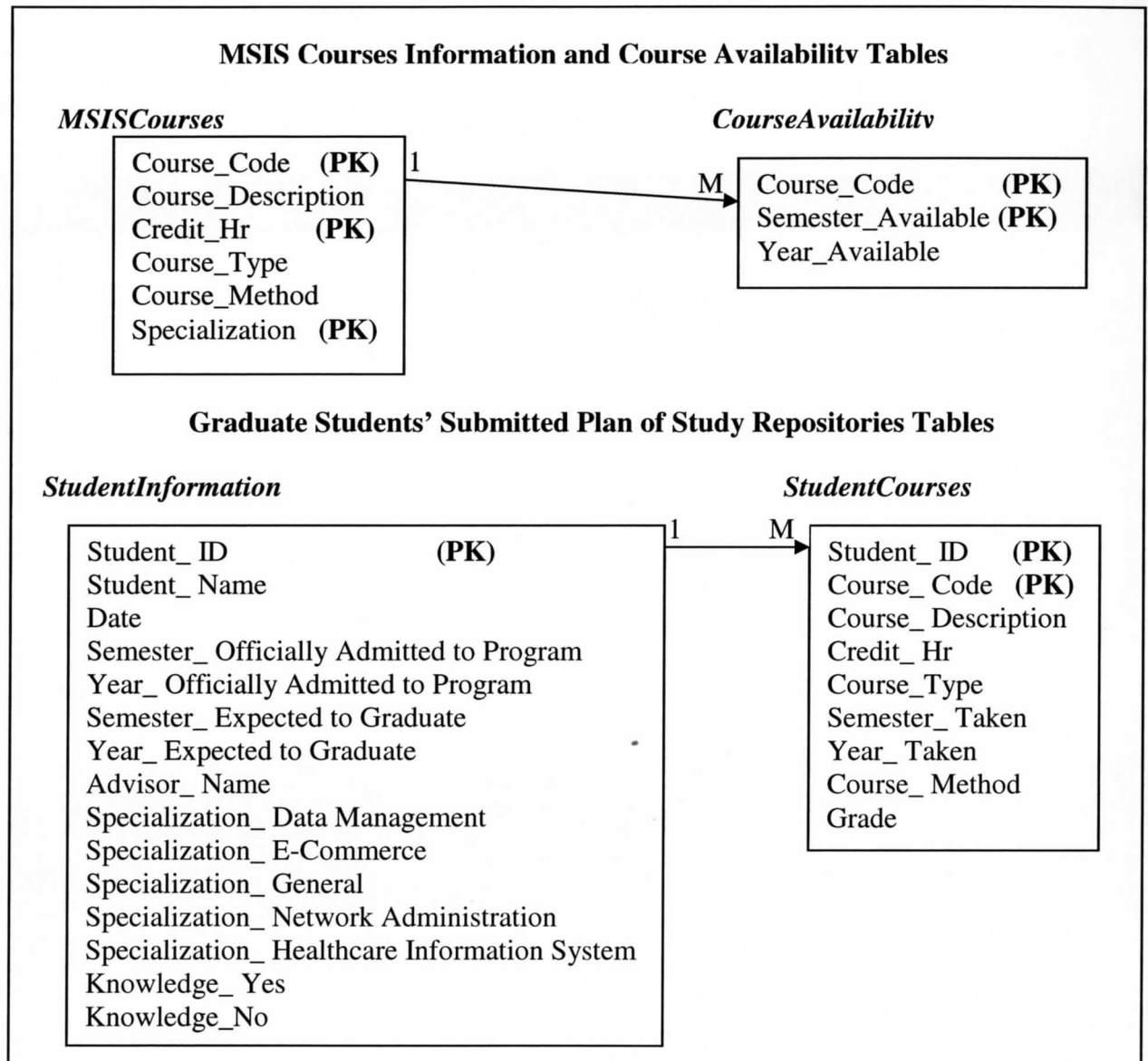


Fig. 36: Database Entity Relationship Diagram

1. **MSISCourses:** MSISCourses table is the repository of all MSIS courses and what each course specifies, every addition or update made by the Administrator in the administrator interface takes effect in the MSISCourses table. All courses are pulled out from this table to the web based Plan of Study System. In order to fully maximize the functionality of this table, three fields are used as the primary Key and they are **Course Code Field**, **Credit Hr Field** and **Specialization**. This is because some courses are the same but under different specialization and with different credit hour which makes them quite different from one another since they are represented differently by their specialization and credit hour. The MSISCourses table list all courses in the following fields
 - a. Course Code: This is one of the fields that act as the **Primary Key Fields** in the **MSISCourses table**. It identifies a course title and what each course represents.
 - b. Course Description: This describes the Course Code; it gives meaning and descriptions to the course code.
 - c. Credit Hour: The Credit Hr is the second of the combination of fields that uniquely identifies a record in the MSISCourses table. It specifies the numbers of hour instructions are given for a particular course in a semester. It is applied toward the total number of hours needed for completing the requirements of a traditional MSIS credit-based degree at Dakota State University.
 - d. Course Type: The Course type Specifies the course category each course falls into. There are three course types:
 1. **Knowledge:** This course type is required of all entering MSIS graduate students who are unable to demonstrate essential knowledge in both business fundamentals and information systems.

2. **Core:** This course type is compulsory. It is meant for all students to fully acquire adequate knowledge of every aspect of Information Technology or Business fundamentals at Dakota State University
 3. **Specialization:** A three-course sequence (9 credit hours) in a Career Track concentration. Students may choose to take more than one Specialization.
- e. Course Method: The course method specifies the requirement of each courses while all knowledge course are specified as '**Not Required**' since not all student get to take them, all other courses are '**Required**' as they must be taken in partial fulfillment to the successful completion of MSIS Graduate Program at Dakota State University.
- f. Specialization: This is the third field of the primary key in **MSISCourses Table**. Presently there are 4 (Four) Specializations which include: Data Management, Electronic Commerce, Network Administration and Security, Healthcare Information Systems, or General. The General specialization entails taking the first course from the Data Management, Electronic Commerce, and the Network Administration and Security specializations.
2. **CourseAvailability:** This table basically lists all the courses and when available to be taken for the MSIS program. It represents the Course Rotation and is able to perform properly the functionality of the Course Rotation with the aid of SQL (Structured Query language) used to retrieve information from the database. The CourseAvailability table consists of three fields namely
- (a) Course Code: This is a text data type field where all course codes are listed. Some courses are listed more than once based on the semester they are available.

- (b) Semester Available: The semester available field is a text data type field which lists when courses are offered. It lists the availability of the course code and pulls out the information based on course code for student to decide when they choose to take their courses.
- (c) Year Available: This is a number data type field. The year available field basically lists 20 rows of years from 2006 -2025. It pulls the information out whenever graduate students are required to enter the year they decide to take their courses

3. **StudentInformation:** This is where the graduate student's submitted demographic information is stored. It consist of the following fields:

- (a) Student ID: A unique number assigned to all MSIS graduate student upon successful admission to Dakota State University. This is the first field in the StudentInformation table with number data type and it is the primary key field in this table since no two graduate students can have the same ID.
- (b) Student Name: This is a text data type field where all graduate student names are stored once the student name field is entered on the Plan of Study demographic interface.
- (c) Semester Officially Admitted To Program: This is a text data type field which stores the semester student was admitted to the graduate program at Dakota State University.
- (d) Year Officially Admitted To Program: This is a number data type field which stores the year student was admitted to the graduate program at Dakota State University.

- (e) Semester Expected To Graduate: This is a text data type which stores the semester student intend to graduate from Dakota State University.
- (f) Year Expected To Graduate: A number data type field which stores the year a named graduate student intends to graduate from Dakota State University.
- (g) Date: This is text data type field that stores the date the MSIS Plan of Study was completed by a named graduate student.
- (h) Advisor Name: This is a text data type field. It stores the advisor name. The advisor is one of the administrators who are allowed to view graduate students' submitted plan of study and update the MSISCourses.
- (i) Specialization: Data Management
- (j) Specialization: Electronic Commerce
- (k) Specialization: General
- (l) Specialization: Network Administration & Security
- (m) Specialization: Healthcare Information Systems:
- (n) Knowledge Yes: Boolean data type field which specifies that knowledge course(s) are taken when checked.
- (o) Knowledge No: A Boolean data type field which specifies that knowledge course(s) are not taken when unchecked.

4. **StudentCourses:** The student courses table is the repository for graduate student's submitted Plan of Study. There are two fields used as a primary key in this table and they are **Student ID** field and **Course Code** field. This table consists of the following fields.

- (a). Student ID: This is one of the primary key fields in the **StudentCourses** table with number data type. This ID was used to create a relationship with the **StudentInformation** table.
- (b). Course Code: The Second key used as part of the primary key field. This is a text data type. It list out all course code submitted.
- (c). Course Description: The third field in the **StudentCourses** table. This is a text data type that points out the description of courses in the course code field.
- (d). Credit Hr: A text data type field that stores the credit hours chosen upon submission.
- (e). Course Type: A text data type field that lists the identifiers of each course upon submission.
- (f). Semester Taken: A text data type field that stores and specifies the semester a course is to be taken.
- (g). Year Taken: A number data type field that specifies the year graduate student chooses to take a particular course.
- (h). Course method: A text data type field that stores the course requirement; that is it specifies whether a course is required or not.
- (i). Grade: A text data type field. This field accepts null value, since at the time of completing a Plan of Study; student might not have obtained any grade. Thus, this field can be left blank.

4.4. SQL has been used in the design of this project. Structured Query Language is a standard programming language for retrieving information from and updating data in the database.

It has been used to create, retrieve, insert or delete courses in the various tables that are in the database. The SQL had been use in the following ways:

From Interface 1: Graduate Student Interface

Completing New Plan of Study

1. **MSIS Course Listing:** The SQL “select” statement is used to retrieve courses to be completed once specialization and knowledge courses have been selected.
2. **Automatic Generation of Course Information:** MSIS courses are automatically retrieved from the database onto the course completion interface when courses are selected from the MSIS Course Listing section using the SQL “select” statement. This eliminates student’s typing or figuring out what the courses selected represent. Also the course rotation is integrated into the program so student can only see the courses available for each semester.
3. **Update Plan of Study in Preview Page:** An ‘update’ SQL query is written to aid proper modification in the preview page for students to make changes to their completed Plan of Study if they choose to. The course rotation is integrated with the aid of the SQL query to filter courses and its availability so as to simplify proper update by graduate students.
4. **Plan of Study Submission into MSIS_POS Database:** The ‘insert’ SQL is written to insert data into designated field and table in the **MSIS_POS**.

Modify Existing Plan of Study

5. **Verification of Graduate Student’s ID:** An SQL Statement is written in the interface of the modification page to ensure that student’s ID already exist in the database before retrieval of existing Plan of Study, else no information is displayed.

6. **Graduate Student Demographic Information:** With the aid of the SQL “select” and “update” Statement, student’s existing demographic Information is displayed for update.
7. **Graduate Student Course Update:** The “select”, “edit” and “delete” SQL query statement enables modification to be made to existing Plan of Study easier.
8. **Add Specialization:** Complete listings of courses are displayed based on already submitted plan of study. The “select” SQL query has been properly structured to filter courses based on new specialization and the previously submitted courses in the database.
9. **Editing/Delete:** The “select”, “edit” and “delete” SQL query is written to automatically accommodate the Course Rotation to make modification easier.

From Interface 2: MSIS Administrative Interface

10. **Retrieve Graduate Students Name and Student ID:** SQL “select” statement is written to automatically generate student’s name that have their submitted Plan of Study in the database. This ensures that the administrator is able to select the name from the dropdown list and view submitted plan of Study.
11. **Submitted Plan of Study:** “Select” SQL statement was written to retrieve submitted Plan of Study for the Administrator’s view.
12. **Update MSISCourses:** The ‘select’, ‘update’ and ‘insert’ SQL queries were written to make modification to existing MSIS Courses table by the Administrator possible.
13. **Update Course Availability:** The ‘select’, ‘update’ and ‘insert’ SQL query is written to make modification to existing **CourseAvailability** table by the Administrator.

Chapter 5

Summary, Conclusion & Recommendation

5.1. Summary

The ever-increasing progress of network computing and particularly the rapid expansion of the use of the internet have had a broad impact on education in a relatively short period of time. Education is on the brink of a new era based on these changes and an online delivery of educational application tool provides the opportunity to bring more creativity to education administration. An online Plan of Study system offering tremendous capabilities and approaches have been developed to deliver a paperless and stress free Plan of Study systems to the MSIS program at Dakota State University. In order to achieve a successful design and development of the project, the website was dynamically created. It is database backed and provides for continual update of MSIS Courses, course availability and easy access to submitted Plan of Study by the administrator.

ASP.NET, a Microsoft's technology for building dynamic, database-driven Website was used to design and develop the project, Visual Basic programming language and Microsoft Access Database Application were the tools used for this project.

5.2. Conclusion

The quest for positive change in the mode of completing MSIS Plan of Study by graduate students at Dakota State University has led to the creation and successful completion of this project. The automation of the graduate Plan of Study will definitely offer unique advantage. The plan of study can be completed by graduate students anytime, anywhere and at their convenience as long as they have access to the Internet. It offers a medium that has the potential to be more

responsive to students and administrators and offers tremendous flexibility and dynamically retrieves and populates courses in the database while students complete their Plan of Study without the use of the course rotation. It gives the graduate program administrator the opportunity to keep the MSIS courses updated every time without affecting the interface where graduate students complete the Plan of Study. Above all, the administrator not only gets to view submitted Plan of Study but they are notified upon successful completion, modification and submission of a Plan of Study into the database.

Overall, the online Plan of Study has been designed putting into consideration simplicity and flexibility and eliminating the course rotation and its complexity as it has been integrated with the aid of database.

5.3. Recommendation

The explosive growth of the internet is making available radical new means of communication that affect diverse areas of education. While older methods of accomplishing tasks continue to be used, the internet offers unique advantages. It is highly recommended that this project be implemented because it will eliminate the burden of manually completing the Plan of Study. It is high time the manual means get switched to an online means and this project has been molded to accomplish that. No doubt this project is long overdue to be implemented.

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Name="Knowledge_No" PropertyName="Checked"
                                Type="Boolean" />
                                </InsertParameters>
                                </asp:SqlDataSource>
                                </asp:Panel>
                                </span>
                                </h1>
                                <asp:Panel ID="Panel2" runat="server" Height="178px" Width="1226px"
Visible="False">

```



```

        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Credit_Hr] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="Message"
Name="Course_Code" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="SqlDataSource4" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Course_Type] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="Message"
Name="Course_Code2" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="SqlDataSource3" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Course_Method] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="Message"
Name="Course_Code2" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="SqlDataSource7" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Year_Av] FROM
[Course_Availability]"></asp:SqlDataSource>
    <asp:SqlDataSource ID="SqlDataSource6" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Semester_Av] FROM
[Course_Availability] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="Message"
Name="Course_Code2" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="AddCoursesSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
InsertCommand="INSERT INTO [StudentCourses] ([Student_ID], [Co_Code],
[Co_Description], [Cr_Hr], [Co_Type], [Sem_Taken], [Yr_Taken], [Co_Method],
[Grade]) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?)"

```



```

        ProviderName="<%"$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %">"
        SelectCommand="SELECT * FROM [StudentCourses]"
DeleteCommand="DELETE FROM [StudentCourses] WHERE [Student_ID] = ? AND
[Co_Code] = ?" UpdateCommand="UPDATE [StudentCourses] SET [Co_Description] =
?, [Cr_Hr] = ?, [Co_Type] = ?, [Sem_Taken] = ?, [Yr_Taken] = ?, [Co_Method] =
?, [Grade] = ? WHERE [Student_ID] = ? AND [Co_Code] = ?">
        <InsertParameters>
            <asp:ControlParameter ControlID="StdIDLabel"
Name="Student_ID" PropertyName="Text"
                Type="Int32" />
            <asp:ControlParameter ControlID="Message"
Name="Co_Code" PropertyName="Text" Type="String" />
            <asp:ControlParameter ControlID="CoDesDropDown"
Name="Co_Description" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="CrHrDropDown"
Name="Cr_Hr" PropertyName="SelectedValue"
                Type="Int32" />
            <asp:ControlParameter ControlID="CoTypeDropDown"
Name="Co_Type" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="SemDropDown"
Name="Sem_Taken" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="YrDropDown"
Name="Yr_Taken" PropertyName="SelectedValue"
                Type="Int32" />
            <asp:ControlParameter ControlID="CoMethodDropDown"
Name="Co_Method" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="GrdDropDown"
Name="Grade" PropertyName="SelectedValue"
                Type="String" />
        </InsertParameters>
        <DeleteParameters>
            <asp:Parameter Name="Student_ID" Type="Int32" />
            <asp:Parameter Name="Co_Code" Type="String" />
        </DeleteParameters>
        <UpdateParameters>
            <asp:Parameter Name="Co_Description" Type="String"
/>
            <asp:Parameter Name="Cr_Hr" Type="Int32" />
            <asp:Parameter Name="Co_Type" Type="String" />
            <asp:Parameter Name="Sem_Taken" Type="String" />
            <asp:Parameter Name="Yr_Taken" Type="Int32" />
            <asp:Parameter Name="Co_Method" Type="String" />
            <asp:Parameter Name="Grade" Type="String" />
            <asp:Parameter Name="Student_ID" Type="Int32" />
            <asp:Parameter Name="Co_Code" Type="String" />
        </UpdateParameters>
    </asp:SqlDataSource>
</div>
<br />
</asp:Panel>

```

```

        <asp:Panel ID="Panel3" runat="server" Height="192px" Width="1223px"
Visible="False">
        <div style="float:left; height:1116px; width:68%; overflow:
auto;" id="div3">
            <span style="font-size: 14pt; font-family: Georgia; color:
#0000cc;"><em>
                Ensure that
                    all required courses are selected and well formatted
before submitting.</em></span><br />
            <asp:Label ID="LblMessage" runat="server" Font-Bold="False"
Font-Italic="False" Font-Size="Large" ForeColor="Red"></asp:Label>
            <asp:Label ID="LblMsg" runat="server" Font-Size="Large"
ForeColor="Red"></asp:Label><br />
            <asp:GridView ID="GridView1" runat="server"
AutoGenerateColumns="False" BackColor="White"
                BorderColor="#E7E7FF" BorderStyle="None" BorderWidth="1px"
CellPadding="3"
                DataKeyNames="Student_ID,Co_Code"
DataSourceID="SqlDataSource9" GridLines="Horizontal" EmptyDataText="There Are
No Records to Display. Choose Your Course(s) First!" Font-Bold="True" Font-
Names="Georgia" Font-Size="Small" Width="765px">
                <FooterStyle BackColor="#B5C7DE" ForeColor="#4A3C8C" />
                <Columns>
                    <asp:CommandField ShowEditButton="True" />
                    <asp:TemplateField HeaderText="Student ID"
SortExpression="Student_ID">
                        <EditItemTemplate>
                            <asp:Label ID="Label1" runat="server" Text='<##
Eval("Student_ID") %>'></asp:Label>
                        </EditItemTemplate>
                        <ItemTemplate>
                            <asp:Label ID="Label1" runat="server" Text='<##
Bind("Student_ID") %>'></asp:Label>
                        </ItemTemplate>
                    </asp:TemplateField>
                    <asp:TemplateField HeaderText="Course Code"
SortExpression="Co_Code">
                        <EditItemTemplate>
                            <asp:Label ID="Label2" runat="server" Text='<##
Eval("Co_Code") %>'></asp:Label>
                        </EditItemTemplate>
                        <ItemTemplate>
                            <asp:Label ID="Label2" runat="server" Text='<##
Bind("Co_Code") %>'></asp:Label>
                        </ItemTemplate>
                    </asp:TemplateField>
                    <asp:TemplateField HeaderText="Course Description"
SortExpression="Co_Description">
                        <EditItemTemplate>
                            <asp:Label ID="DescLabel" runat="server"
Text='<## Bind("Co_Description") %>'></asp:Label>&nbsp;   
                        </EditItemTemplate>
                        <ItemTemplate>
                            <asp:Label ID="Label3" runat="server" Text='<##
Bind("Co_Description") %>'></asp:Label>
                        </ItemTemplate>
                    </asp:TemplateField>

```



```

        <asp:TemplateField HeaderText="Credit Hour"
SortExpression="Cr_Hr">
            <EditItemTemplate>
                &nbsp;<asp:DropDownList ID="DropDownList3"
runat="server" DataSourceID="SqlDataSource13" DataTextField="Credit_Hr"
DataValueField="Credit_Hr" SelectedValue='<%# Bind("Cr_Hr") %>' >
                    </asp:DropDownList><asp:SqlDataSource
ID="SqlDataSource13" runat="server" ConnectionString="<%%$
ConnectionStrings:MSIS_POSConnectionString %>"
                    ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
                    SelectCommand="SELECT DISTINCT [Credit_Hr]
FROM [MSISCourses] WHERE ([Course_Code] = ?)">
                        <SelectParameters>
                            <asp:ControlParameter ControlID="Label2"
Name="Course_Code" PropertyName="Text"
                                Type="String" />
                        </SelectParameters>
                    </asp:SqlDataSource>
                </EditItemTemplate>
            <ItemTemplate>
                <asp:Label ID="Label4" runat="server" Text='<%#
Bind("Cr_Hr") %>'></asp:Label>
            </ItemTemplate>
        </asp:TemplateField>
        <asp:TemplateField HeaderText="Course Type"
SortExpression="Co_Type">
            <EditItemTemplate>
                <asp:Label ID="CoTypeLabel" runat="server"
Text='<%# Bind("Co_Type") %>'></asp:Label>
            </EditItemTemplate>
            <ItemTemplate>
                <asp:Label ID="Label5" runat="server" Text='<%#
Bind("Co_Type") %>'></asp:Label>
            </ItemTemplate>
        </asp:TemplateField>
        <asp:TemplateField HeaderText="Semester Taken"
SortExpression="Sem_Taken">
            <EditItemTemplate>
                &nbsp;<asp:DropDownList ID="DropDownList1"
runat="server" DataSourceID="SqlDataSource12"
                    DataTextField="Semester_Av"
DataValueField="Semester_Av" SelectedValue='<%# Bind("Sem_Taken") %>'>
                    </asp:DropDownList><asp:SqlDataSource
ID="SqlDataSource12" runat="server" ConnectionString="<%%$
ConnectionStrings:MSIS_POSConnectionString %>"
                    ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
                    SelectCommand="SELECT DISTINCT [Semester_Av]
FROM [Course_Availability] WHERE ([Course_Code] = ?)">
                        <SelectParameters>
                            <asp:ControlParameter ControlID="Label2"
Name="Course_Code" PropertyName="Text"
                                Type="String" />
                        </SelectParameters>
                    </asp:SqlDataSource>
                </EditItemTemplate>

```

```

        <ItemTemplate>
            <asp:Label ID="Label6" runat="server" Text='<%#
Bind("Sem_Taken") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Year Taken"
SortExpression="Yr_Taken">
        <EditItemTemplate>
            <asp:TextBox ID="TextBox5" runat="server"
Text='<%# Bind("Yr_Taken") %>' Width="50px"></asp:TextBox>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label7" runat="server" Text='<%#
Bind("Yr_Taken") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Course Method"
SortExpression="Co_Method">
        <EditItemTemplate>
            &nbsp;<asp:Label ID="CoMethodLabel"
runat="server" Text='<%# Bind("Co_Method") %>'></asp:Label>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label8" runat="server" Text='<%#
Bind("Co_Method") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Grade"
SortExpression="Grade">
        <EditItemTemplate>
            &nbsp;<asp:DropDownList ID="DropDownList2"
runat="server" SelectedValue='<%# Bind("Grade") %>'>
                <asp:ListItem>A</asp:ListItem>
                <asp:ListItem>B</asp:ListItem>
                <asp:ListItem>C</asp:ListItem>
                <asp:ListItem>D</asp:ListItem>
                <asp:ListItem>E</asp:ListItem>
                <asp:ListItem>F</asp:ListItem>
                <asp:ListItem></asp:ListItem>
            </asp:DropDownList>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label9" runat="server" Text='<%#
Bind("Grade") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField ShowHeader="False">
        <ItemTemplate>
        </ItemTemplate>
    </asp:TemplateField>
</Columns>
<RowStyle BackColor="#E7E7FF" ForeColor="#4A3C8C" />
<SelectedRowStyle BackColor="#738A9C" Font-Bold="True"
ForeColor="#F7F7F7" />
<PagerStyle ForeColor="#4A3C8C" HorizontalAlign="Right"
BackColor="#E7E7FF" />

```

```

        <HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />
        <AlternatingRowStyle BackColor="#F7F7F7" />
    </asp:GridView>
    <asp:SqlDataSource ID="SqlDataSource9" runat="server"
ConnectionString="<%$ ConnectionStrings:MSIS_POSConnectionString %>"
DeleteCommand="DELETE FROM [StudentCourses] WHERE
[Student_ID] = ? AND [Co_Code] = ?"
InsertCommand="INSERT INTO [StudentCourses] ([Student_ID],
[Co_Code], [Co_Description], [Cr_Hr], [Co_Type], [Sem_Taken], [Yr_Taken],
[Co_Method], [Grade]) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?)"
ProviderName="<%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
SelectCommand="SELECT * FROM [StudentCourses] WHERE
([Student_ID] = ?)" UpdateCommand="UPDATE [StudentCourses] SET
[Co_Description] = ?, [Cr_Hr] = ?, [Co_Type] = ?, [Sem_Taken] = ?, [Yr_Taken]
= ?, [Co_Method] = ?, [Grade] = ? WHERE [Student_ID] = ? AND [Co_Code] = ?">
    <DeleteParameters>
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
    </DeleteParameters>
    <UpdateParameters>
        <asp:Parameter Name="Co_Description" Type="String" />
        <asp:Parameter Name="Cr_Hr" Type="Int32" />
        <asp:Parameter Name="Co_Type" Type="String" />
        <asp:Parameter Name="Sem_Taken" Type="String" />
        <asp:Parameter Name="Yr_Taken" Type="Int32" />
        <asp:Parameter Name="Co_Method" Type="String" />
        <asp:Parameter Name="Grade" Type="String" />
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
    </UpdateParameters>
    <SelectParameters>
        <asp:ControlParameter ControlID="StdIDLabel"
Name="Student_ID" PropertyName="Text"
Type="Int32" />
    </SelectParameters>
    <InsertParameters>
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
        <asp:Parameter Name="Co_Description" Type="String" />
        <asp:Parameter Name="Cr_Hr" Type="Int32" />
        <asp:Parameter Name="Co_Type" Type="String" />
        <asp:Parameter Name="Sem_Taken" Type="String" />
        <asp:Parameter Name="Yr_Taken" Type="Int32" />
        <asp:Parameter Name="Co_Method" Type="String" />
        <asp:Parameter Name="Grade" Type="String" />
    </InsertParameters>
</asp:SqlDataSource>
    <br />
    <asp:Button ID="BtnBack" OnClick="BtnBack_Click"
runat="server" Text="Back" />
    <asp:Button ID="btnSubmit" OnClick="btnSubmit_Click"
runat="server" Text="Submit" />
</div>
<div style="float: right; overflow: auto; width: 31%; height:
1058px; font-size: 12pt;" id="div4" >

```

```

        &nbsp;<span><span style="color: #003333; font-family:
Georgia"><span><em><span
        style="color: #0000cc; font-size: 14pt;">Click here to
make changes</span></em></span><asp:Button ID="BtnEdit" Onclick =
"BtnEdit_Click" runat="server" Text="Edit"
        Width="74px" /><br />
</span><span><span><span style="font-size: 14pt;"><span
style="color: #003333"><span>
        <span style="font-size: 16pt"><span>
        <br />
        <span style="color: #0000cc"><span style="text-
decoration: underline"><strong>
        Student
informat<span>i</span>on.</strong></span></span></span></span><strong>&nbsp;<br />
        <br />
        </strong></span><span style="color:
#336699"><em><strong>Student ID: </strong></em>
        <asp:Label ID="LblStdID" runat="server"
ForeColor="#0000C0" Font-Bold="False"></asp:Label><br />
        </span><span style="font-size: 14pt"><span
style="color: #336699">
        <span><em><strong>Student Name:</strong></em>
        <asp:Label ID="LblStdName" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label></span><br />
        <span><em><strong>College:</strong></em>
        <asp:Label ID="LblCollege" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label></span><br />
        <span><strong><em>Date Admitted To Program:
</em></strong>
        <asp:Label ID="AdmitLblSem" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label>
        <asp:Label ID="AdmitLblYr" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label></span><span>
        </span>
        <br />
        </span></span><span style="font-size: 14pt"><span
style="color: #336699"><span><strong>
        <em>Date
        Expected To Graduate:</em></strong><asp:Label
ID="ExpLblSem" runat="server" Font-Bold="False"
ForeColor="#0000C0"></asp:Label><asp:Label ID="ExpLblYr" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label></span><br />
        <span><strong><em>Date:</em></strong>
        <asp:Label ID="LblDate" runat="server" Font-Bold="False"
ForeColor="#0000C0"></asp:Label></span><br />
        <span><span><span><strong><em>Advisor
Name:</em></strong></span>
        <asp:Label ID="LblAdvisorName" runat="server" Font-
Bold="False" ForeColor="#0000C0"></asp:Label></span></span></span></span><br />
        </span>
        <br />
        <span><span style="font-size: 14pt"><span style="color:
#003333"><strong><span style="color: #0000cc">
        <span style="font-family: Georgia; text-decoration:
underline;">Specialization chosen:</span>&nbsp;</span><br />

```



```

    </asp:Panel>
    <asp:Panel ID="Panel5" runat="server" Height="107px" Width="1233px"
Visible="False">
        <span style="font-size: 16pt; font-family: Georgia"><span
style="color: #0000cc">You
            have submitted a plan of study already. Click on
modification button, you are not
            required to complete a new plan of study.</span><br />
        </span>
        <br />
        <asp:DetailsView ID="DetailsView3" runat="server"
BackColor="White" BorderColor="#E7E7FF"
            BorderStyle="None" BorderWidth="1px" CellPadding="3"
DataSourceID="SqlDataSource8"
            GridLines="Horizontal" Visible="False">
            <FooterStyle BackColor="#B5C7DE" ForeColor="#4A3C8C" />
            <RowStyle BackColor="#E7E7FF" ForeColor="#4A3C8C" />
            <PagerStyle BackColor="#E7E7FF" ForeColor="#4A3C8C"
HorizontalAlign="Right" />
            <HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />
            <AlternatingRowStyle BackColor="#F7F7F7" />
        </asp:Detailsview>
        <asp:SqlDataSource ID="SqlDataSource8" runat="server"
ConnectionString="<%"$ ConnectionStrings:MSIS_POSConnectionString %">
ProviderName="<%"$ ConnectionStrings:MSIS_POSConnectionString.ProviderName %">
SelectCommand="SELECT * FROM [StudentInformation] WHERE ([Student_ID] = ?)"
DeleteCommand="DELETE FROM [StudentInformation] WHERE [Student_ID] = ?"
InsertCommand="INSERT INTO [StudentInformation] ([Student_ID],
[Student_Name], [Sem_OfficiallyAdmitted], [Yr_OfficiallyAdmitted],
[Sem_Expected], [Yr_Expected], [Date], [Advisor_Name],
[Specialization_DataManagement], [Specialization_ElectronicCommerce],
[Specialization_General], [Specialization_HealthcareInformationSystems],
[Specialization_NetworkAdministration], [Knowledge_Yes], [Knowledge_No])
VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)" UpdateCommand="UPDATE
[StudentInformation] SET [Student_Name] = ?, [Sem_OfficiallyAdmitted] = ?,
[Yr_OfficiallyAdmitted] = ?, [Sem_Expected] = ?, [Yr_Expected] = ?, [Date] =
?, [Advisor_Name] = ?, [Specialization_DataManagement] = ?,
[Specialization_ElectronicCommerce] = ?, [Specialization_General] = ?,
[Specialization_HealthcareInformationSystems] = ?,
[Specialization_NetworkAdministration] = ?, [Knowledge_Yes] = ?,
[Knowledge_No] = ? WHERE [Student_ID] = ?">
            <SelectParameters>
                <asp:ControlParameter ControlID="txtID"
Name="Student_ID" PropertyName="Text" Type="Int32" />
            </SelectParameters>
            <DeleteParameters>
                <asp:Parameter Name="Student_ID" Type="Int32" />
            </DeleteParameters>
            <UpdateParameters>
                <asp:Parameter Name="Student_Name" Type="String" />
                <asp:Parameter Name="Sem_OfficiallyAdmitted"
Type="String" />
                <asp:Parameter Name="Yr_OfficiallyAdmitted" Type="Int32"
/>
                <asp:Parameter Name="Sem_Expected" Type="String" />
                <asp:Parameter Name="Yr_Expected" Type="Int32" />

```

```

        <asp:Parameter Name="Date" Type="String" />
        <asp:Parameter Name="Advisor_Name" Type="String" />
        <asp:Parameter Name="Specialization_DataManagement"
Type="Boolean" />
        <asp:Parameter Name="Specialization_ElectronicCommerce"
Type="Boolean" />
        <asp:Parameter Name="Specialization_General"
Type="Boolean" />
        <asp:Parameter
Name="Specialization_HealthcareInformationSystems" Type="Boolean" />
        <asp:Parameter
Name="Specialization_NetworkAdministration" Type="Boolean" />
        <asp:Parameter Name="Knowledge_Yes" Type="Boolean" />
        <asp:Parameter Name="Knowledge_No" Type="Boolean" />
        <asp:Parameter Name="Student_ID" Type="Int32" />
    </UpdateParameters>
    <InsertParameters>
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Student_Name" Type="String" />
        <asp:Parameter Name="Sem_OfficiallyAdmitted"
Type="String" />
        <asp:Parameter Name="Yr_OfficiallyAdmitted" Type="Int32"
/>
        <asp:Parameter Name="Sem_Expected" Type="String" />
        <asp:Parameter Name="Yr_Expected" Type="Int32" />
        <asp:Parameter Name="Date" Type="String" />
        <asp:Parameter Name="Advisor_Name" Type="String" />
        <asp:Parameter Name="Specialization_DataManagement"
Type="Boolean" />
        <asp:Parameter Name="Specialization_ElectronicCommerce"
Type="Boolean" />
        <asp:Parameter Name="Specialization_General"
Type="Boolean" />
        <asp:Parameter
Name="Specialization_HealthcareInformationSystems" Type="Boolean" />
        <asp:Parameter
Name="Specialization_NetworkAdministration" Type="Boolean" />
        <asp:Parameter Name="Knowledge_Yes" Type="Boolean" />
        <asp:Parameter Name="Knowledge_No" Type="Boolean" />
    </InsertParameters>
</asp:SqlDataSource>
<br />
<br />
    &nbsp;</asp:Panel>
    &nbsp;<br />
</div>
</form>
</body>
</html>

```


VB.Net Source code behind

```
Partial Class Plan_Of_Study
    Inherits System.Web.UI.Page
```

```
    Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load
        txtName.Focus()
        'Ensure that on successful completion, students are unable to go back
to previous page. They have to exit and close the browser.
        'Response.Cache.SetCacheability(HttpCacheability.NoCache)
    End Sub
```

```
    Protected Sub ValidateBtn_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles validatebtn.Click

        'if txtid.Text =
        If IsValid Then
            'make page 2 visible
            Panel2.Visible = True
            'make everything else invisible
            Panel1.Visible = False
            MsgLabel.Text = ""
        End If
        'Ensure that Student Choose Specialization Before Proceeding.
        If chkDataMan.Checked Or chkEComm.Checked Or chkGeneral.Checked Or
chkNetwork.Checked Or HealthChkBox.Checked = True Then
            Panel2.Visible = True
            Panel1.Visible = False
        Else : Panel2.Visible = False
            Panel1.Visible = True
            MsgLabel.Text = "You Must Select Specialization To Proceed:
Multiple Selection Allowed."
            Return
        End If
```

```
    'Ensure that Student choose Knowledge Course Before Proceeding.
    If YesRadBtn.Checked Or NoRadBtn.Checked = True Then
        Panel2.Visible = True
        Panel1.Visible = False
    Else : Panel2.Visible = False
        Panel1.Visible = True
        MsgLabel.Text = "Are You Required to Take Any Knowledge
Course(s)? Choose Yes Or No To Proceed"
        'MsgBox("Are You Taking Knowledge Course? Choose Yes Or No To
Proceed")
    End If
```

```
    Dim SelectString As String = "SELECT DISTINCT [Course_Code],
[Course_Description], [Course_Type] FROM [MSISCourses] WHERE ([Course_Type] =
'Core') OR ([Course_Type] = 'Information Integration Project') "
    If YesRadBtn.Checked = True Then
        SelectString = SelectString & " OR ([Course_Type] = 'Knowledge') "
    End If
    If chkDataMan.Checked = True Then
```



```

        SelectString = SelectString & " OR ([Specialization] = 'Data
Management') "
    End If
    If chkGeneral.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] =
'General') "
    End If
    If chkEComm.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] =
'Electronic Commerce') "
    End If
    If chkNetwork.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] = 'Network
Administration and Security') "
    End If
    If HealthChkBox.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] =
'Healthcare Information Systems') "
    End If
    MSISCourseSqlData.SelectCommand = SelectString

    StdIDLabel.Text = txtID.Text

    Try
        Dim myDateTimeUS As System.DateTime
        Dim format As New System.Globalization.CultureInfo("en-US", True)
        myDateTimeUS = System.DateTime.Parse(txtDate.Text, format)
        Panel2.Visible = True
        Panel1.Visible = False
        LabelDate.Text = ""

    Catch ex As Exception
        Panel1.Visible = True
        Panel2.Visible = False
        LabelDate.Text = "Invalid Date: Enter Correct Date in mm/dd/yyyy
Format"

        'Response.Write(ex.Message)
    End Try
End Sub

Sub GridView2_SelectedIndexChanged(ByVal sender As Object, ByVal e As
EventArgs)
    ' Display the primary key value of the selected row.
    Message.Text = GridView2.SelectedDataKey.Value.ToString()

End Sub

Protected Sub btnAdd_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Ensure that Student Select a particular course only once: Brings out
a message if a course has been selected before
    Dim lb As LinkButton =
GridView2.SelectedRow.FindControl("LinkButton1")
    If lb.CommandArgument = "set" Then
        Message.Text = "Already submitted:Select another course"
    Else
        lb.CommandArgument = "set"
    End If
End Sub

```

```

        'Insert Students Courses into the StudentCourses table
    Try
        AddCoursesSqlData.Insert()
    Catch except As Exception
    End Try
End If
'cancels out the error message displayed if any
lblNext.Message = ""
End Sub

Protected Sub btnPreview_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Reveal the next page for student to view selected and added courses
    If IsValid Then
        Panel3.Visible = True
        GridView1.DataBind()
        'Make panel3 invisible
        Panel2.Visible = False
    End If
    LblStdName.Text = txtName.Text
    LblStdID.Text = txtID.Text
    LblCollege.Text = txtCollege.Text
    LblDate.Text = txtDate.Text
    LblAdvisorName.Text = txtAdvisor.Text
    AdmitLblSem.Text = AdmitDropDownList.SelectedValue
    AdmitLblYr.Text = AdmitDropDownList.SelectedValue
    ExpLblSem.Text = ExpectedDropDownList.SelectedValue
    ExpLblYr.Text = ExpDropDownList.SelectedValue
    LblGeneral.Text = chkGeneral.Checked
    LblData.Text = chkDataMan.Checked
    LblEComm.Text = chkEComm.Checked
    lblNtwk.Text = chkNetwork.Checked
    LblHealth.Text = HealthChkBox.Checked

    If YesRadBtn.Checked = True Then
        LblKnow.Text = "True"
    End If

    If NoRadBtn.Checked = True Then
        LblKnow.Text = "False"
    End If

    LblMessage.Text = ""
    LblMsg.Text = ""

End Sub

Protected Sub btnEdit_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    If IsValid Then
        'Takes student back to the first back If they need to make
changes to their information.
        Panel1.Visible = True
        'Hides current page
        Panel3.Visible = False
    End If
End Sub

```

```

Protected Sub LinkButton2_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'call the non delete function and returns the page upon the users
change of mind to delete any field
    Me.Panel3.Visible = True
    LblMessage.Text = ""
End Sub

```

```

Protected Sub BtnBack_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    If IsValid Then
        'Take student back to the completion page to complete their plan
of study before submission
        LblMessage.Text = ""
        LblMsg.Text = ""
        Panel2.Visible = True
        'Hide the Preview page
        Panel3.Visible = False
    End If
End Sub

```

```

Protected Sub btnSubmit_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles btnSubmit.Click
    'color of the selected value in the Student Course Information list
    GridView2.SelectedRow.BackColor = Drawing.Color.DarkSlateBlue
    'Used to ensure that Student Select all required course before they
can submit and at least one Knowledge course if they choose to take any
knowledge course.
    Dim grow As GridViewRow, allselected As Boolean = True, oneSelected
As Boolean = False
    If YesRadBtn.Checked = True Then
        For Each grow In GridView2.Rows
            If grow.RowType = DataControlRowType.DataRow Then
                'Gives exception to Rows with
INFS601,INFS605,INFS612,INFS788-c
                Dim i As Integer = grow.RowIndex
                Select Case GridView2.DataKeys(i)(0).ToString
                    Case "INFS601", "INFS605", "INFS612", "INFS788-c"
                        Dim lb As LinkButton =
grow.FindControl("LinkButton1")
                        If lb.CommandArgument = "set" Then oneSelected =
True
                        Case Else
                            'prompt message to select atleast one knowledge
course
                            LblMsg.Text = "Select atleast one Knowledge
Course to Submit"
                            Dim lb As LinkButton =
grow.FindControl("LinkButton1")
                            If Not lb.CommandArgument = "set" Then
                                allselected = False
                                'changes the color of unselected row
                                grow.BackColor = Drawing.Color.Red
                                Exit For
                            End If
                        End Select

```

```

        End If
    Next
    If allselected = True And oneSelected = True Then
        'Reveal the last page on successful completion of Students
Plan of study
        Panel4.Visible = True
        'Insert Student Information into database StudentInformation
table
        Try
            InsertSqlData.Insert()
        Catch except As Exception
        End Try
        'Hide the previous page on successful completion of the plan
of Study.
        Panel3.Visible = False
        'Declare the E-mail Textbox as string so that any email
address entered in the field is used to notify Administrator on successful
completion
        Dim S, N As String
        S = TxtEmail.Text
        N = txtName.Text
        'Sends a Notification E-Mail to Administrator that a Named
Graduate Student has successfully completed Plan of Study.
        MailHelper.SendMailMessage(S, "aa@pluto.dsu.edu", "", "",
"MSIS PlanOfStudy Notification E-Mail", "MSIS Graduate Plan Of Study
Successfully completed by: " & N)
        'Ensure that on successful completion, students are unable to
go back to previous page. They have to exit and close the browser.
        Response.Cache.SetCacheability(HttpCacheability.NoCache)
    Else
        ' Message to select all
        LblMessage.Text = "You have courses left to Complete before
Submitting. Click on the back button and select the highlighted Courses to
Proceed."
    End If
End If

If NoRadBtn.Checked = True Then
    For Each grow In GridView2.Rows
        If grow.RowType = DataControlRowType.DataRow Then
            Dim i As Integer = grow.RowIndex
            Select Case GridView2.DataKeys(i)(0).ToString
                Case "INFS788-c"
                Case Else
                    Dim lb As LinkButton =
grow.FindControl("LinkButton1")
                    If Not lb.CommandArgument = "set" Then
                        allselected = False
                        'changes the color of unselected row
                        grow.BackColor = Drawing.Color.Red
                    Exit For
                End If
            End Select
        End If
    Next
    If allselected = True Then
        'Reveal the last page on successful completion of Students Plan of study

```

```

        Panel4.Visible = True
    'Insert Student Information into database StudentInformation table
    Try
        InsertSqlData.Insert()
    Catch except As Exception
    End Try
    'Hide the previous page on successful completion of the plan of Study.
    Panel3.Visible = False
    'Declare the E-mail Textbox as string so that any email address entered
    in the field is used to notify Administrator on successful completion
    Dim S, N As String
    S = TxtEmail.Text
    N = txtName.Text
    'Sends a Notification E-Mail to Administrator that a Named
    Graduate Student has successfully completed Plan of Study.
    MailHelper.SendMailMessage(S, "aa@pluto.dsu.edu", "", "",
    "MSIS PlanOfStudy Notification E-Mail", "MSIS Graduate Plan Of Study
    Successfully completed by: " & N)
    'Ensure that on successful completion, students are unable to
    go back to previous page. They have to exit and close the browser.
    Response.Cache.SetCacheability(HttpCacheability.NoCache)
    Else
        ' Message to select all
        lblMessage.Text = "You have courses left to Complete before
    Submitting. Click on the back button and select the highlighted Courses to
    Proceed."
    End If
    End If
End Sub

Protected Sub ButtonBack_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles ButtonBack.Click
    If IsValid Then
        Panel2.Visible = False
        Panel1.Visible = True
    End If
End Sub
End Class

```

1.2 Change or Modify/Plan of Study source code

HTML

```

<%@ Page Language="VB" AutoEventWireup="false"
CodeFile="Change_Modify.aspx.vb" Inherits="Change_Modify" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" >

<SCRIPT language = "javascript" >
    window.history.forward(1);
</script>

```



```

                                <EditItemTemplate>
                                    <asp:Label ID="Label1" runat="server"
Text='<%# Eval("Student_ID") %>'></asp:Label>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:TextBox ID="TextBox1"
runat="server" Text='<%# Bind("Student_ID") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label1" runat="server"
Text='<%# Bind("Student_ID") %>'></asp:Label>
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField HeaderText="Student Name"
SortExpression="Student_Name">
                                <EditItemTemplate>
                                    <asp:TextBox ID="TextBox1"
runat="server" Text='<%# Bind("Student_Name") %>'></asp:TextBox>
                                    <asp:RequiredFieldValidator
ID="RequiredFieldValidator3" runat="server" ControlToValidate="TextBox1"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:TextBox ID="TextBox2"
runat="server" Text='<%# Bind("Student_Name") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label2" runat="server"
Text='<%# Bind("Student_Name") %>'></asp:Label>
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField HeaderText="Semester
Officially Admitted To Program" SortExpression="Sem_OfficiallyAdmitted">
                                <EditItemTemplate>
                                    <asp:TextBox ID="TextBox2"
runat="server" Text='<%# Bind("Sem_OfficiallyAdmitted") %>'></asp:TextBox>
                                    <asp:RequiredFieldValidator
ID="RequiredFieldValidator4" runat="server" ControlToValidate="TextBox2"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:TextBox ID="TextBox3"
runat="server" Text='<%# Bind("Sem_OfficiallyAdmitted") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label3" runat="server"
Text='<%# Bind("Sem_OfficiallyAdmitted") %>'></asp:Label>
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField HeaderText="Year
Officially Admitted To Program" SortExpression="Yr_OfficiallyAdmitted">
                                <EditItemTemplate>
                                    <asp:TextBox ID="TextBox3"
runat="server" Text='<%# Bind("Yr_OfficiallyAdmitted") %>'></asp:TextBox>

```



```

                                <asp:RequiredFieldValidator
ID="RequiredFieldValidator5" runat="server" ControlToValidate="TextBox3"
                                </asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:TextBox ID="TextBox4"
runat="server" Text='<%# Bind("Yr_OfficiallyAdmitted") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label4" runat="server"
Text='<%# Bind("Yr_OfficiallyAdmitted") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Semester
Expected To Graduate" SortExpression="Sem_Expected">
                                    <EditItemTemplate>
                                        <asp:TextBox ID="TextBox4"
runat="server" Text='<%# Bind("Sem_Expected") %>'></asp:TextBox>
                                        <asp:RequiredFieldValidator
ID="RequiredFieldValidator6" runat="server" ControlToValidate="TextBox4"
                                        ErrorMessage="*"></asp:RequiredFieldValidator>
                                        </EditItemTemplate>
                                        <InsertItemTemplate>
                                            <asp:TextBox ID="TextBox5"
runat="server" Text='<%# Bind("Sem_Expected") %>'></asp:TextBox>
                                        </InsertItemTemplate>
                                        <ItemTemplate>
                                            <asp:Label ID="Label5" runat="server"
Text='<%# Bind("Sem_Expected") %>'></asp:Label>
                                        </ItemTemplate>
                                        </asp:TemplateField>
                                        <asp:TemplateField HeaderText="Year Expected
To Graduate" SortExpression="Yr_Expected">
                                            <EditItemTemplate>
                                                <asp:TextBox ID="TextBox5"
runat="server" Text='<%# Bind("Yr_Expected") %>'></asp:TextBox>
                                                <asp:RequiredFieldValidator
ID="RequiredFieldValidator7" runat="server" ControlToValidate="TextBox5"
                                                ErrorMessage="*"></asp:RequiredFieldValidator>
                                                </EditItemTemplate>
                                                <InsertItemTemplate>
                                                    <asp:TextBox ID="TextBox6"
runat="server" Text='<%# Bind("Yr_Expected") %>'></asp:TextBox>
                                                </InsertItemTemplate>
                                                <ItemTemplate>
                                                    <asp:Label ID="Label6" runat="server"
Text='<%# Bind("Yr_Expected") %>'></asp:Label>
                                                </ItemTemplate>
                                                </asp:TemplateField>
                                                <asp:TemplateField HeaderText="Date"
SortExpression="Date">
                                                    <EditItemTemplate>
                                                        <asp:TextBox ID="DateTextBox"
runat="server" Text='<%# Bind("Date") %>'></asp:TextBox>

```

```

        <asp:RequiredFieldValidator
ID="RequiredFieldValidator8" runat="server" ControlToValidate="DateTextBox"
ErrorMessage="*"></asp:RequiredFieldValidator>
        </EditItemTemplate>
        <InsertItemTemplate>
            <asp:TextBox ID="TextBox7"
runat="server" Text='<%# Bind("Date") %>'></asp:TextBox>
        </InsertItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label7" runat="server"
Text='<%# Bind("Date") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Advisor Name"
SortExpression="Advisor_Name">
        <EditItemTemplate>
            <asp:TextBox ID="TextBox7"
runat="server" Text='<%# Bind("Advisor_Name") %>'></asp:TextBox>
            <asp:RequiredFieldValidator
ID="RequiredFieldValidator9" runat="server" ControlToValidate="TextBox7"
ErrorMessage="*"></asp:RequiredFieldValidator>
            </EditItemTemplate>
            <InsertItemTemplate>
                <asp:TextBox ID="TextBox8"
runat="server" Text='<%# Bind("Advisor_Name") %>'></asp:TextBox>
            </InsertItemTemplate>
            <ItemTemplate>
                <asp:Label ID="Label8" runat="server"
Text='<%# Bind("Advisor_Name") %>'></asp:Label>
            </ItemTemplate>
        </asp:TemplateField>
    <asp:TemplateField
HeaderText="Specialization: Data Management"
SortExpression="Specialization_DataManagement">
        <EditItemTemplate>
            &nbsp;<asp:CheckBox ID="CheckBox8"
runat="server" Checked='<%# Bind("Specialization_DataManagement") %>' />
        </EditItemTemplate>
        <InsertItemTemplate>
            <asp:CheckBox ID="CheckBox1"
runat="server" Checked='<%# Bind("Specialization_DataManagement") %>' />
        </InsertItemTemplate>
        <ItemTemplate>
            <asp:CheckBox ID="CheckBox1"
runat="server" Checked='<%# Bind("Specialization_DataManagement") %>'
Enabled="false" />
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField
HeaderText="Specialization: Electronic Commerce"
SortExpression="Specialization_ElectronicCommerce">
        <EditItemTemplate>
            &nbsp;<asp:CheckBox ID="CheckBox9"
runat="server" Checked='<%# Bind("Specialization_ElectronicCommerce") %>' />
        </EditItemTemplate>
    </asp:TemplateField>

```

```

        <InsertItemTemplate>
            <asp:CheckBox ID="CheckBox2"
runat="server" Checked='<%# Bind("Specialization_ElectronicCommerce") %>' />
        </InsertItemTemplate>
        <ItemTemplate>
            <asp:CheckBox ID="CheckBox2"
runat="server" Checked='<%# Bind("Specialization_ElectronicCommerce") %>'
                Enabled="false" />
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField
HeaderText="Specialization: General" SortExpression="Specialization_General">
        <EditItemTemplate>
            &nbsp;<asp:CheckBox ID="CheckBox10"
runat="server" Checked='<%# Bind("Specialization_General") %>' />
        </EditItemTemplate>
        <InsertItemTemplate>
            <asp:CheckBox ID="CheckBox3"
runat="server" Checked='<%# Bind("Specialization_General") %>' />
        </InsertItemTemplate>
        <ItemTemplate>
            <asp:CheckBox ID="CheckBox3"
runat="server" Checked='<%# Bind("Specialization_General") %>'
                Enabled="false" />
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField
HeaderText="Specialization: Healthcare Information Systems"
SortExpression="Specialization_HealthcareInformationSystems">
        <EditItemTemplate>
            &nbsp;<asp:CheckBox ID="CheckBox11"
runat="server" Checked='<%#
Bind("Specialization_HealthcareInformationSystems") %>' />
        </EditItemTemplate>
        <InsertItemTemplate>
            <asp:CheckBox ID="CheckBox4"
runat="server" Checked='<%#
Bind("Specialization_HealthcareInformationSystems") %>' />
        </InsertItemTemplate>
        <ItemTemplate>
            <asp:CheckBox ID="CheckBox4"
runat="server" Checked='<%#
Bind("Specialization_HealthcareInformationSystems") %>'
                Enabled="False" />
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField
HeaderText="Specialization: Network Administration And Security"
SortExpression="Specialization_NetworkAdministration">
        <EditItemTemplate>
            &nbsp;<asp:CheckBox ID="CheckBox12"
runat="server" Checked='<%# Bind("Specialization_NetworkAdministration") %>'
/>
        </EditItemTemplate>
        <InsertItemTemplate>

```

```

                                <asp:CheckBox ID="CheckBox5"
runat="server" Checked='<%# Bind("Specialization_NetworkAdministration") %>'
/>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:CheckBox ID="CheckBox5"
runat="server" Checked='<%# Bind("Specialization_NetworkAdministration") %>'
                                        Enabled="False" />
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField HeaderText="Knowledge:
Yes" SortExpression="Knowledge_Yes">
                                <EditItemTemplate>
                                    &nbsp;<asp:RadioButton
ID="RadioButton2" runat="server" Checked='<%# Bind("Knowledge_Yes") %>'
GroupName="Specialization" />
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:CheckBox ID="CheckBox6"
runat="server" Checked='<%# Bind("Knowledge_Yes") %>' />
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:CheckBox ID="CheckBox6"
runat="server" Checked='<%# Bind("Knowledge_Yes") %>'
                                        Enabled="False" />
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField HeaderText="Knowledge: No"
SortExpression="Knowledge_No">
                                <EditItemTemplate>
                                    &nbsp;<asp:RadioButton
ID="RadioButton1" runat="server" Checked='<%# Bind("Knowledge_No") %>'
GroupName="Specialization" />
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                    <asp:CheckBox ID="CheckBox7"
runat="server" Checked='<%# Bind("Knowledge_No") %>' />
                                </InsertItemTemplate>
                                <ItemTemplate>
                                    <asp:CheckBox ID="CheckBox7"
runat="server" Checked='<%# Bind("Knowledge_No") %>'
                                        Enabled="false" />
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:TemplateField ShowHeader="False">
                                <ItemTemplate>
                                    <asp:LinkButton ID="LinkButton2"
OnClientClick="return confirm('Are you sure you want to delete this
record?');" OnClick="LinkButton2_Click" runat="server"
CausesValidation="False" CommandName="Delete"
                                    Text="Delete"></asp:LinkButton>
                                </ItemTemplate>
                            </asp:TemplateField>
                            <asp:CommandField ShowEditButton="True" />
                        </Fields>
                        <HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />

```

```

        <AlternatingRowStyle BackColor="#F7F7F7" />

    </asp:DetailsView>
    <asp:SqlDataSource ID="SqlDataSource1"
runat="server" ConnectionString="<%"$
ConnectionStrings:MSIS_POSConnectionString %">
        DeleteCommand="DELETE FROM
[StudentInformation] WHERE [Student_ID] = ?" InsertCommand="INSERT INTO
[StudentInformation] ([Student_ID], [Student_Name], [Sem_OfficiallyAdmitted],
[Yr_OfficiallyAdmitted], [Sem_Expected], [Yr_Expected], [Date],
[Advisor_Name], [Specialization_DataManagement],
[Specialization_ElectronicCommerce], [Specialization_General],
[Specialization_HealthcareInformationSystems],
[Specialization_NetworkAdministration], [Knowledge_Yes], [Knowledge_No])
VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)"
        ProviderName="<%"$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %">
        SelectCommand="SELECT * FROM
[StudentInformation] WHERE ([Student_ID] = ?)" UpdateCommand="UPDATE
[StudentInformation] SET [Student_Name] = ?, [Sem_OfficiallyAdmitted] = ?,
[Yr_OfficiallyAdmitted] = ?, [Sem_Expected] = ?, [Yr_Expected] = ?, [Date] =
?, [Advisor_Name] = ?, [Specialization_DataManagement] = ?,
[Specialization_ElectronicCommerce] = ?, [Specialization_General] = ?,
[Specialization_HealthcareInformationSystems] = ?,
[Specialization_NetworkAdministration] = ?, [Knowledge_Yes] = ?,
[Knowledge_No] = ? WHERE [Student_ID] = ?">
        <DeleteParameters>
            <asp:Parameter Name="Student_ID"
Type="Int32" />
        </DeleteParameters>
        <UpdateParameters>
            <asp:Parameter Name="Student_Name"
Type="String" />
            <asp:Parameter
Name="Sem_OfficiallyAdmitted" Type="String" />
            <asp:Parameter
Name="Yr_OfficiallyAdmitted" Type="Int32" />
            <asp:Parameter Name="Sem_Expected"
Type="String" />
            <asp:Parameter Name="Yr_Expected"
Type="Int32" />
            <asp:Parameter Name="Date" Type="String"
/>
            <asp:Parameter Name="Advisor_Name"
Type="String" />
            <asp:Parameter
Name="Specialization_DataManagement" Type="Boolean" />
            <asp:Parameter
Name="Specialization_ElectronicCommerce" Type="Boolean" />
            <asp:Parameter
Name="Specialization_General" Type="Boolean" />
            <asp:Parameter
Name="Specialization_HealthcareInformationSystems" Type="Boolean" />
            <asp:Parameter
Name="Specialization_NetworkAdministration" Type="Boolean" />
            <asp:Parameter Name="Knowledge_Yes"
Type="Boolean" />

```

```

Type="Boolean" />
Type="Int32" />
ControlID="txtStdID" Name="Student_ID" PropertyName="Text"
Type="Int32" />
</SelectParameters>
<asp:ControlParameter
Type="Int32" />
</SelectParameters>
<InsertParameters>
<asp:Parameter Name="Student_ID"
Type="Int32" />
<asp:Parameter Name="Student_Name"
Type="String" />
<asp:Parameter
Name="Sem_OfficiallyAdmitted" Type="String" />
<asp:Parameter
Name="Yr_OfficiallyAdmitted" Type="Int32" />
<asp:Parameter Name="Sem_Expected"
Type="String" />
<asp:Parameter Name="Yr_Expected"
Type="Int32" />
<asp:Parameter Name="Date" Type="String"
/>
<asp:Parameter Name="Advisor_Name"
Type="String" />
<asp:Parameter
Name="Specialization_DataManagement" Type="Boolean" />
<asp:Parameter
Name="Specialization_ElectronicCommerce" Type="Boolean" />
<asp:Parameter
Name="Specialization_General" Type="Boolean" />
<asp:Parameter
Name="Specialization_HealthcareInformationSystems" Type="Boolean" />
<asp:Parameter
Name="Specialization_NetworkAdministration" Type="Boolean" />
<asp:Parameter Name="Knowledge_Yes"
Type="Boolean" />
<asp:Parameter Name="Knowledge_No"
Type="Boolean" />
</InsertParameters>
</asp:SqlDataSource>
</asp:panel>

<asp:panel ID=Panel2 runat="server" Width="985px"
Visible="False">
<span style="color: #0000cc"> <strong><span
style="font-family: Georgia"><span style="color: #000033">
<span style="color: #0000cc">
<em>
You must delete all courses to proceed. Then
complete a new plan of study. </em>
&nbsp;</span>
</span>&nbsp;<span> &nbsp;</span>
</span>&nbsp;</span>

```



```

ProviderName="<%"$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
SelectCommand="SELECT * FROM
[StudentCourses] WHERE ([Student_ID] = ?)" UpdateCommand="UPDATE
[StudentCourses] SET [Co_Description] = ?, [Cr_Hr] = ?, [Co_Type] = ?,
[Sem_Taken] = ?, [Yr_Taken] = ?, [Co_Method] = ?, [Grade] = ? WHERE
[Student_ID] = ? AND [Co_Code] = ?">
<DeleteParameters>
  <asp:Parameter Name="Student_ID"
Type="Int32" />
  <asp:Parameter Name="Co_Code"
Type="String" />
</DeleteParameters>
<UpdateParameters>
  <asp:Parameter Name="Co_Description"
Type="String" />
  <asp:Parameter Name="Cr_Hr" Type="Int32"
/>
  <asp:Parameter Name="Co_Type"
Type="String" />
  <asp:Parameter Name="Sem_Taken"
Type="String" />
  <asp:Parameter Name="Yr_Taken"
Type="Int32" />
  <asp:Parameter Name="Co_Method"
Type="String" />
  <asp:Parameter Name="Grade"
Type="String" />
  <asp:Parameter Name="Student_ID"
Type="Int32" />
  <asp:Parameter Name="Co_Code"
Type="String" />
</UpdateParameters>
<SelectParameters>
  <asp:ControlParameter
ControlID="txtStdID" Name="Student_ID" PropertyName="Text"
Type="Int32" />
</SelectParameters>
<InsertParameters>
  <asp:Parameter Name="Student_ID"
Type="Int32" />
  <asp:Parameter Name="Co_Code"
Type="String" />
  <asp:Parameter Name="Co_Description"
Type="String" />
  <asp:Parameter Name="Cr_Hr" Type="Int32"
/>
  <asp:Parameter Name="Co_Type"
Type="String" />
  <asp:Parameter Name="Sem_Taken"
Type="String" />
  <asp:Parameter Name="Yr_Taken"
Type="Int32" />
  <asp:Parameter Name="Co_Method"
Type="String" />
  <asp:Parameter Name="Grade"
Type="String" />

```



```

        </InsertParameters>
    </asp:SqlDataSource>
    <br />
    <asp:Label ID="lblNext" runat="server"
ForeColor="Red" ></asp:Label><br />
    <br />
    <asp:Button ID="BtnProceed"
OnClick="BtnProceed_Click" Text="Proceed" runat="server" />
    <br />
</asp:panel>
    <asp:Panel ID="Panel4" runat="server" Height="50px"
Width="973px" Visible="False">
    <span style="color: #0000cc; font-family:
Georgia"><strong><span style="color: #000033">
    <em><span style="color: #0000cc">Update student
information and date to reflect current
information,<br />
    click here to update/adjust plan of
study.</span></em> </span>&nbsp;&nbsp;&nbsp;</strong>
    <asp:Button ID="Button1" runat="server" Text="Update
Course" Font-Bold="True" ForeColor="#0000C0" />
    <asp:Button ID="Button3" runat="server" Font-
Bold="True" ForeColor="#0000C0" Text="Back"
Width="53px" /></span><br />
    <br />
    <asp:DetailsView ID="DetailsView2" runat="server"
OnItemUpdated="DetailsView2_ItemUpdated" AutoGenerateRows="False"
BackColor="White"
        BorderColor="#E7E7FF" BorderStyle="None"
BorderWidth="1px" CellPadding="3" DataKeyNames="Student_ID"
        DataSourceID="SqlDataSource4" GridLines="Horizontal"
Height="50px" Width="696px" EmptyDataText="There Are No Records To Display.">
    <FooterStyle BackColor="#B5C7DE" ForeColor="#4A3C8C"
/>
    <EditRowStyle BackColor="#738A9C" Font-Bold="True"
ForeColor="#F7F7F7" />
    <RowStyle BackColor="#E7E7FF" ForeColor="#4A3C8C" />
    <PagerStyle BackColor="#E7E7FF" ForeColor="#4A3C8C"
HorizontalAlign="Right" />
    <Fields>
        <asp:BoundField DataField="Student_ID"
HeaderText="Student ID" ReadOnly="True" SortExpression="Student_ID" />
        <asp:TemplateField HeaderText="Student Name"
SortExpression="Student_Name">
            <EditItemTemplate>
                <asp:TextBox ID="TextBox1" runat="server"
Text='<%# Bind("Student_Name") %>'></asp:TextBox>
                <asp:RequiredFieldValidator
ID="RequiredFieldValidator10" runat="server" ControlToValidate="TextBox1"
ErrorMessage="*"></asp:RequiredFieldValidator>
            </EditItemTemplate>
            <InsertItemTemplate>
                <asp:TextBox ID="TextBox1" runat="server"
Text='<%# Bind("Student_Name") %>'></asp:TextBox>
            </InsertItemTemplate>
        </ItemTemplate>
    </Fields>
</asp:DetailsView>

```



```

                                <asp:Label ID="Label4" runat="server"
Text='<%# Bind("Sem_Expected") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Year Expected To
Graduate" SortExpression="Yr_Expected">
                                <EditItemTemplate>
                                <asp:TextBox ID="TextBox5" runat="server"
Text='<%# Bind("Yr_Expected") %>'></asp:TextBox>
                                <asp:RequiredFieldValidator
ID="RequiredFieldValidator14" runat="server" ControlToValidate="TextBox5"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                <asp:TextBox ID="TextBox5" runat="server"
Text='<%# Bind("Yr_Expected") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                <asp:Label ID="Label5" runat="server"
Text='<%# Bind("Yr_Expected") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Date"
SortExpression="Date">
                                <EditItemTemplate>
                                <asp:TextBox ID="TextBox6" runat="server"
Text='<%# Bind("Date") %>'></asp:TextBox>
                                <asp:RequiredFieldValidator
ID="RequiredFieldValidator15" runat="server" ControlToValidate="TextBox6"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                <asp:TextBox ID="TextBox6" runat="server"
Text='<%# Bind("Date") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>
                                <asp:Label ID="Label6" runat="server"
Text='<%# Bind("Date") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Advisor Name"
SortExpression="Advisor_Name">
                                <EditItemTemplate>
                                <asp:TextBox ID="TextBox7" runat="server"
Text='<%# Bind("Advisor_Name") %>'></asp:TextBox>
                                <asp:RequiredFieldValidator
ID="RequiredFieldValidator16" runat="server" ControlToValidate="TextBox7"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <InsertItemTemplate>
                                <asp:TextBox ID="TextBox7" runat="server"
Text='<%# Bind("Advisor_Name") %>'></asp:TextBox>
                                </InsertItemTemplate>
                                <ItemTemplate>

```

```

                                <asp:Label ID="Label7" runat="server"
Text='<%# Bind("Advisor_Name") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:CommandField ShowEditButton="True" />
                                </Fields>
                                <HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />
                                <AlternatingRowStyle BackColor="#F7F7F7" />
                                </asp:DetailsView>
                                <asp:SqlDataSource ID="SqlDataSource4" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
                                DeleteCommand="DELETE FROM [StudentInformation] WHERE
[Student_ID] = ?" InsertCommand="INSERT INTO [StudentInformation]
([Student_ID], [Student_Name], [Sem_OfficiallyAdmitted],
[Yr_OfficiallyAdmitted], [Sem_Expected], [Yr_Expected], [Date],
[Advisor_Name]) VALUES (?, ?, ?, ?, ?, ?, ?)"
                                ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
                                SelectCommand="SELECT [Student_ID], [Student_Name],
[Sem_OfficiallyAdmitted], [Yr_OfficiallyAdmitted], [Sem_Expected],
[Yr_Expected], [Date], [Advisor_Name] FROM [StudentInformation] WHERE
([Student_ID] = ?)"
                                UpdateCommand="UPDATE [StudentInformation] SET
[Student_Name] = ?, [Sem_OfficiallyAdmitted] = ?, [Yr_OfficiallyAdmitted] =
?, [Sem_Expected] = ?, [Yr_Expected] = ?, [Date] = ?, [Advisor_Name] = ?
WHERE [Student_ID] = ?">
                                <DeleteParameters>
                                <asp:Parameter Name="Student_ID" Type="Int32" />
                                </DeleteParameters>
                                <UpdateParameters>
                                <asp:Parameter Name="Student_Name" Type="String"
/>
                                <asp:Parameter Name="Sem_OfficiallyAdmitted"
Type="String" />
                                <asp:Parameter Name="Yr_OfficiallyAdmitted"
Type="Int32" />
                                <asp:Parameter Name="Sem_Expected" Type="String"
/>
                                <asp:Parameter Name="Yr_Expected" Type="Int32" />
                                <asp:Parameter Name="Date" Type="String" />
                                <asp:Parameter Name="Advisor_Name" Type="String"
/>
                                <asp:Parameter Name="Student_ID" Type="Int32" />
                                </UpdateParameters>
                                <SelectParameters>
                                <asp:ControlParameter ControlID="txtStdID"
Name="Student_ID" PropertyName="Text"
                                Type="Int32" />
                                </SelectParameters>
                                <InsertParameters>
                                <asp:Parameter Name="Student_ID" Type="Int32" />
                                <asp:Parameter Name="Student_Name" Type="String"
/>
                                <asp:Parameter Name="Sem_OfficiallyAdmitted"
Type="String" />

```


[illegible]


```

        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="CoMtdSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Course_Method] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="CoCodeLbl"
Name="Course_Code" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="CoTypSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Course_Type] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="CoCodeLbl"
Name="Course_Code" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="CrHrSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Credit_Hr] FROM
[MSISCourses] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="CoCodeLbl"
Name="Course_Code" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="SemAvSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Semester_Av] FROM
[Course_Availability] WHERE ([Course_Code] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="CoCodeLbl"
Name="Course_Code" PropertyName="Text"
                Type="String" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="YrAvSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT [Year_Av] FROM
[Course_Availability]"></asp:SqlDataSource>

```



```

        <asp:SqlDataSource ID="InsertCourseSqlData" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        DeleteCommand="DELETE FROM [StudentCourses] WHERE
[Student_ID] = ? AND [Co_Code] = ?"
        InsertCommand="INSERT INTO [StudentCourses]
([Student_ID], [Co_Code], [Co_Description], [Cr_Hr], [Co_Type], [Sem_Taken],
[Yr_Taken], [Co_Method], [Grade]) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?)"
        ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT * FROM [StudentCourses]"
UpdateCommand="UPDATE [StudentCourses] SET [Co_Description] = ?, [Cr_Hr] = ?,
[Co_Type] = ?, [Sem_Taken] = ?, [Yr_Taken] = ?, [Co_Method] = ?, [Grade] = ?
WHERE [Student_ID] = ? AND [Co_Code] = ?">
        <DeleteParameters>
            <asp:Parameter Name="Student_ID" Type="Int32" />
            <asp:Parameter Name="Co_Code" Type="String" />
        </DeleteParameters>
        <UpdateParameters>
            <asp:Parameter Name="Co_Description" Type="String"
/>
            <asp:Parameter Name="Cr_Hr" Type="Int32" />
            <asp:Parameter Name="Co_Type" Type="String" />
            <asp:Parameter Name="Sem_Taken" Type="String" />
            <asp:Parameter Name="Yr_Taken" Type="Int32" />
            <asp:Parameter Name="Co_Method" Type="String" />
            <asp:Parameter Name="Grade" Type="String" />
            <asp:Parameter Name="Student_ID" Type="Int32" />
            <asp:Parameter Name="Co_Code" Type="String" />
        </UpdateParameters>
        <InsertParameters>
            <asp:ControlParameter ControlID="txtStdID"
Name="Student_ID" PropertyName="Text"
                Type="Int32" />
            <asp:ControlParameter ControlID="CoCodeLbl"
Name="Co_Code" PropertyName="Text" Type="String" />
            <asp:ControlParameter ControlID="DropDownList4"
Name="Co_Description" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="DropDownList7"
Name="Cr_Hr" PropertyName="SelectedValue"
                Type="Int32" />
            <asp:ControlParameter ControlID="DropDownList6"
Name="Co_Type" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="DropDownList8"
Name="Sem_Taken" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="DropDownList9"
Name="Yr_Taken" PropertyName="SelectedValue"
                Type="Int32" />
            <asp:ControlParameter ControlID="DropDownList5"
Name="Co_Method" PropertyName="SelectedValue"
                Type="String" />
            <asp:ControlParameter ControlID="DropDownList10"
Name="Grade" PropertyName="SelectedValue"
                Type="String" />
        </InsertParameters>

```



```

                                <asp:TemplateField HeaderText="Year Taken"
SortExpression="Yr_Taken">
                                <EditItemTemplate>
                                    <asp:TextBox ID="TextBox5" runat="server"
Text='<%# Bind("Yr_Taken") %>'
Width="42px"></asp:TextBox><asp:RequiredFieldValidator
ID="RequiredFieldValidator22" runat="server" ControlToValidate="TextBox5"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label5" runat="server"
Text='<%# Bind("Yr_Taken") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Course Method"
SortExpression="Co_Method">
                                <EditItemTemplate>
                                    &nbsp;<asp:Label ID="Label10"
runat="server" Text='<%# Bind("Co_Method") %>'></asp:Label>
                                </EditItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label6" runat="server"
Text='<%# Bind("Co_Method") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Grade"
SortExpression="Grade">
                                <EditItemTemplate>
                                    &nbsp;<asp:DropDownList
ID="DropDownList3" runat="server" SelectedValue='<%# Bind("Grade") %>'>
                                        <asp:ListItem>A</asp:ListItem>
                                        <asp:ListItem>B</asp:ListItem>
                                        <asp:ListItem>C</asp:ListItem>
                                        <asp:ListItem>D</asp:ListItem>
                                        <asp:ListItem>E</asp:ListItem>
                                        <asp:ListItem></asp:ListItem>
                                    </asp:DropDownList>
                                </EditItemTemplate>
                                <ItemTemplate>
                                    <asp:Label ID="Label7" runat="server"
Text='<%# Bind("Grade") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField ShowHeader="False">
                                <ItemTemplate>
                                    <asp:LinkButton ID="LinkButton3"
OnClick="return confirm('Are you sure you want to delete this
record?');"; OnClick="LinkButton3_Click" runat="server"
CausesValidation="False" CommandName="Delete"
                                    Text="Delete"></asp:LinkButton>
                                </ItemTemplate>
                                </asp:TemplateField>
                                </Columns>
                                <RowStyle BackColor="#E7E7FF" ForeColor="#4A3C8C" />
                                <SelectedRowStyle BackColor="#738A9C" Font-
Bold="True" ForeColor="#F7F7F7" />

```

```

HorizontalAlign="Right" />
    <PagerStyle BackColor="#E7E7FF" ForeColor="#4A3C8C"
    <HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />
    <AlternatingRowStyle BackColor="#F7F7F7" />
    </asp:GridView>
    <asp:SqlDataSource ID="SqlDataSource5" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
DeleteCommand="DELETE FROM [StudentCourses] WHERE
[Student_ID] = ? AND [Co_Code] = ?"
InsertCommand="INSERT INTO [StudentCourses]
([Student_ID], [Co_Code], [Co_Description], [Cr_Hr], [Co_Type], [Sem_Taken],
[Yr_Taken], [Co_Method], [Grade]) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?)"
ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
SelectCommand="SELECT * FROM [StudentCourses] WHERE
([Student_ID] = ?)" UpdateCommand="UPDATE [StudentCourses] SET
[Co_Description] = ?, [Cr_Hr] = ?, [Co_Type] = ?, [Sem_Taken] = ?, [Yr_Taken]
= ?, [Co_Method] = ?, [Grade] = ? WHERE [Student_ID] = ? AND [Co_Code] = ?">
    <DeleteParameters>
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
    </DeleteParameters>
    <UpdateParameters>
        <asp:Parameter Name="Co_Description"
Type="String" />
        <asp:Parameter Name="Cr_Hr" Type="Int32" />
        <asp:Parameter Name="Co_Type" Type="String" />
        <asp:Parameter Name="Sem_Taken" Type="String" />
        <asp:Parameter Name="Yr_Taken" Type="Int32" />
        <asp:Parameter Name="Co_Method" Type="String" />
        <asp:Parameter Name="Grade" Type="String" />
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
    </UpdateParameters>
    <SelectParameters>
        <asp:ControlParameter ControlID="txtStdID"
Name="Student_ID" PropertyName="Text"
Type="Int32" />
    </SelectParameters>
    <InsertParameters>
        <asp:Parameter Name="Student_ID" Type="Int32" />
        <asp:Parameter Name="Co_Code" Type="String" />
        <asp:Parameter Name="Co_Description"
Type="String" />
        <asp:Parameter Name="Cr_Hr" Type="Int32" />
        <asp:Parameter Name="Co_Type" Type="String" />
        <asp:Parameter Name="Sem_Taken" Type="String" />
        <asp:Parameter Name="Yr_Taken" Type="Int32" />
        <asp:Parameter Name="Co_Method" Type="String" />
        <asp:Parameter Name="Grade" Type="String" />
    </InsertParameters>
    </asp:SqlDataSource>
    <br />
    &nbsp;<asp:Button ID="Button5" runat="server" Text="Back"
Width="53px" />&nbsp;  

```

```

        <asp:Button ID="BtnClose" OnClick =BtnClose_Click
runat="server" Text="Close" /></asp:Panel>
        <asp:Panel ID="Panel7" runat="server" Height="50px"
Visible="False" Width="1204px">
            <em><span style="font-size: 16pt; color: #0000cc"><span
style="font-family: Georgia">
                <strong><span style="color: #000033"><span
style="font-size: 14pt; color: #0000cc;">
                    Preview plan of study before
submitting.</span>&nbsp;</span></strong></span><br />
                <asp:Label ID="NextLabel" runat="server"
ForeColor="Red" Font-Bold="False" Font-Size="Large" Font-
Italic="False"></asp:Label><br />
                <asp:GridView ID="GridView4" runat="server"
AutoGenerateColumns="False" BackColor="White"
                    BorderColor="#E7E7FF" BorderStyle="None" BorderWidth="1px"
CellPadding="3"
                        DataKeyNames="Student_ID,Co_Code"
DataSourceID="SqlDataSource9" GridLines="Horizontal" EmptyDataText="There Are
No Records to Display. Choose Your Course(s) First!" Font-Italic="False"
Font-Names="Georgia" Font-Size="Large" Width="1171px">
                            <FooterStyle BackColor="#B5C7DE" ForeColor="#4A3C8C" />
                            <Columns>
                                <asp:CommandField ShowEditButton="True" />
                                <asp:TemplateField HeaderText="Student ID"
SortExpression="Student_ID">
                                    <EditItemTemplate>
                                        <asp:Label ID="Label1" runat="server" Text='<%#
Eval("Student_ID") %>'></asp:Label>
                                        </EditItemTemplate>
                                    <ItemTemplate>
                                        <asp:Label ID="Label1" runat="server" Text='<%#
Bind("Student_ID") %>'></asp:Label>
                                        </ItemTemplate>
                                    </asp:TemplateField>
                                <asp:TemplateField HeaderText="Course Code"
SortExpression="Co_Code">
                                    <EditItemTemplate>
                                        <asp:Label ID="Label2" runat="server" Text='<%#
Eval("Co_Code") %>'></asp:Label>
                                        </EditItemTemplate>
                                    <ItemTemplate>
                                        <asp:Label ID="Label2" runat="server" Text='<%#
Bind("Co_Code") %>'></asp:Label>
                                        </ItemTemplate>
                                    </asp:TemplateField>
                                <asp:TemplateField HeaderText="Course Description"
SortExpression="Co_Description">
                                    <EditItemTemplate>
                                        <asp:Label ID="Label3" runat="server" Text='<%#
Bind("Co_Description") %>'></asp:Label>&nbsp;</EditItemTemplate>
                                    <ItemTemplate>
                                        <asp:Label ID="Label3" runat="server" Text='<%#
Bind("Co_Description") %>'></asp:Label>
                                        </ItemTemplate>
                                    </asp:TemplateField>
                            </Columns>
                        </asp:GridView>
                    </asp:Panel>
                </div>
            </div>
        </div>
    </div>

```

```

        <asp:TemplateField HeaderText="Credit Hour"
SortExpression="Cr_Hr">
            <EditItemTemplate>
                &nbsp;<asp:DropDownList ID="DropDownList11"
runat="server" DataSourceID="SqlDataSource8"
                DataTextField="Credit_Hr"
DataValueField="Credit_Hr" SelectedValue='<%# Bind("Cr_Hr") %>'>
                </asp:DropDownList><asp:SqlDataSource
ID="SqlDataSource8" runat="server" ConnectionString="<%%$
ConnectionStrings:MSIS_POSConnectionString %>"
                ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
                SelectCommand="SELECT DISTINCT [Credit_Hr]
FROM [MSISCourses] WHERE ([Course_Code] = ?)">
                <SelectParameters>
                    <asp:ControlParameter ControlID="Label2"
Name="Course_Code" PropertyName="Text"
                    Type="String" />
                </SelectParameters>
                </asp:SqlDataSource>
            </EditItemTemplate>
            <ItemTemplate>
                <asp:Label ID="Label4" runat="server" Text='<%#
Bind("Cr_Hr") %>'></asp:Label>
            </ItemTemplate>
        </asp:TemplateField>
        <asp:TemplateField HeaderText="Course Type"
SortExpression="Co_Type">
            <EditItemTemplate>
                <asp:Label ID="Label5" runat="server" Text='<%#
Bind("Co_Type") %>'></asp:Label>
            </EditItemTemplate>
            <ItemTemplate>
                <asp:Label ID="Label5" runat="server" Text='<%#
Bind("Co_Type") %>'></asp:Label>
            </ItemTemplate>
        </asp:TemplateField>
        <asp:TemplateField HeaderText="Semester Taken"
SortExpression="Sem_Taken">
            <EditItemTemplate>
                &nbsp;<asp:DropDownList ID="DropDownList1"
runat="server" DataSourceID="SqlDataSource12"
                DataTextField="Semester_Av"
DataValueField="Semester_Av" SelectedValue='<%# Bind("Sem_Taken") %>'>
                </asp:DropDownList><asp:SqlDataSource
ID="SqlDataSource12" runat="server" ConnectionString="<%%$
ConnectionStrings:MSIS_POSConnectionString %>"
                ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
                SelectCommand="SELECT DISTINCT [Semester_Av]
FROM [Course_Availability] WHERE ([Course_Code] = ?)">
                <SelectParameters>
                    <asp:ControlParameter ControlID="Label2"
Name="Course_Code" PropertyName="Text"
                    Type="String" />
                </SelectParameters>
                </asp:SqlDataSource>

```



```

        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label6" runat="server" Text='<%#
Bind("Sem_Taken") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Year Taken"
SortExpression="Yr_Taken">
        <EditItemTemplate>
            <asp:TextBox ID="TextBox5" runat="server"
Text='<%# Bind("Yr_Taken") %>'
Width="42px"></asp:TextBox><asp:RequiredFieldValidator
ID="RequiredFieldValidator23" runat="server" ControlToValidate="TextBox5"
ErrorMessage="*"></asp:RequiredFieldValidator>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label7" runat="server" Text='<%#
Bind("Yr_Taken") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Course Method"
SortExpression="Co_Method">
        <EditItemTemplate>
            &nbsp;<asp:Label ID="Label8" runat="server"
Text='<%# Bind("Co_Method") %>'></asp:Label>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label8" runat="server" Text='<%#
Bind("Co_Method") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Grade"
SortExpression="Grade">
        <EditItemTemplate>
            &nbsp;<asp:DropDownList ID="DropDownList2"
runat="server" SelectedValue='<%# Bind("Grade") %>'>
                <asp:ListItem>A</asp:ListItem>
                <asp:ListItem>B</asp:ListItem>
                <asp:ListItem>C</asp:ListItem>
                <asp:ListItem>D</asp:ListItem>
                <asp:ListItem>E</asp:ListItem>
                <asp:ListItem>F</asp:ListItem>
                <asp:ListItem></asp:ListItem>
            </asp:DropDownList>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label9" runat="server" Text='<%#
Bind("Grade") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField ShowHeader="False">
        <ItemTemplate>
            <asp:LinkButton ID="LinkButton5"
OnClick="return confirm('Are you sure you want to delete this
record?');" OnClick="LinkButton5_Click" runat="server"
CausesValidation="False" CommandName="Delete"

```



```

        Text="Delete"></asp:LinkButton>
    </ItemTemplate>
</asp:TemplateField>
</Columns>
<RowStyle BackColor="#E7E7FF" ForeColor="#4A3C8C" />
<SelectedRowStyle BackColor="#738A9C" Font-Bold="True"
ForeColor="#F7F7F7" />
<PagerStyle ForeColor="#4A3C8C" HorizontalAlign="Right"
BackColor="#E7E7FF" />
<HeaderStyle BackColor="#4A3C8C" Font-Bold="True"
ForeColor="#F7F7F7" />
<AlternatingRowStyle BackColor="#F7F7F7" />
</asp:GridView>
<asp:SqlDataSource ID="SqlDataSource9" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
DeleteCommand="DELETE FROM [StudentCourses] WHERE
[Student_ID] = ? AND [Co_Code] = ?"
InsertCommand="INSERT INTO [StudentCourses] ([Student_ID],
[Co_Code], [Co_Description], [Cr_Hr], [Co_Type], [Sem_Taken], [Yr_Taken],
[Co_Method], [Grade]) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?)"
ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
SelectCommand="SELECT * FROM [StudentCourses] WHERE
([Student_ID] = ?)" UpdateCommand="UPDATE [StudentCourses] SET
[Co_Description] = ?, [Cr_Hr] = ?, [Co_Type] = ?, [Sem_Taken] = ?, [Yr_Taken]
= ?, [Co_Method] = ?, [Grade] = ? WHERE [Student_ID] = ? AND [Co_Code] = ?">
<DeleteParameters>
    <asp:Parameter Name="Student_ID" Type="Int32" />
    <asp:Parameter Name="Co_Code" Type="String" />
</DeleteParameters>
<UpdateParameters>
    <asp:Parameter Name="Co_Description" Type="String" />
    <asp:Parameter Name="Cr_Hr" Type="Int32" />
    <asp:Parameter Name="Co_Type" Type="String" />
    <asp:Parameter Name="Sem_Taken" Type="String" />
    <asp:Parameter Name="Yr_Taken" Type="Int32" />
    <asp:Parameter Name="Co_Method" Type="String" />
    <asp:Parameter Name="Grade" Type="String" />
    <asp:Parameter Name="Student_ID" Type="Int32" />
    <asp:Parameter Name="Co_Code" Type="String" />
</UpdateParameters>
<SelectParameters>
    <asp:ControlParameter ControlID="txtStdID"
Name="Student_ID" PropertyName="Text"
Type="Int32" />
</SelectParameters>
<InsertParameters>
    <asp:Parameter Name="Student_ID" Type="Int32" />
    <asp:Parameter Name="Co_Code" Type="String" />
    <asp:Parameter Name="Co_Description" Type="String" />
    <asp:Parameter Name="Cr_Hr" Type="Int32" />
    <asp:Parameter Name="Co_Type" Type="String" />
    <asp:Parameter Name="Sem_Taken" Type="String" />
    <asp:Parameter Name="Yr_Taken" Type="Int32" />
    <asp:Parameter Name="Co_Method" Type="String" />
    <asp:Parameter Name="Grade" Type="String" />
</InsertParameters>

```

```

        </asp:SqlDataSource>
        <br />
        <asp:Button ID="BackButton"
OnClick="BackButton_Click" runat="server" Text="Back" Width="63px" />
        <asp:Button ID="SubmitButton" OnClick
="SubmitButton_Click" runat="server" Text="Submit" /><br />
        </span></em></asp:Panel>
        <asp:Panel ID="Panel8" runat="server" Height="50px"
Width="1202px" Visible="False" ForeColor="#0000CC">
        <strong><em><span style="font-family: Georgia">You have
successfully submitted. Administrator
        is notified of your plan of study modification via
the e-mail address provided by
        you!</span></em></strong>
        </asp:Panel>
        </span></div>
    </form>
</body>
</html>

```

VB.Net Source code behind

```

Partial Class Change_Modify
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load
        'Sets the cursor on the first textbox once the page uploads
        txtStdID.Focus()

    End Sub

    Protected Sub Button1_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button1.Click
        'Dispaly Panel 6 and Hide panel 4 when button is clicked
        If IsValid Then
            Panel6.Visible = True
            Panel4.Visible = False
        End If
    End Sub

    Protected Sub AddButton_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles AddButton.Click
        If IsValid Then
            StdIDLbl1.Text = txtStdID.Text
            Panel1.Visible = True
            Panel2.Visible = False
            Panel3.Visible = False
            Panel4.Visible = False
        End If
    End Sub

    Protected Sub UpdateBtn_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles UpdateBtn.Click
        If IsValid Then

```

```

        Panel4.Visible = True
        Panel11.Visible = False
        Panel2.Visible = False
        Panel3.Visible = False
        Panel5.Visible = False
    End If
End Sub

Protected Sub Linkbutton2_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Call function for not deleting the corresponding record
    Me.Panel11.Visible = False
    'Call function for deleting the corresponding record
    Me.Panel2.Visible = True
End Sub

Protected Sub Linkbutton1_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Call function for not deleting the corresponding record
    Me.Panel2.Visible = True
    lblNext.Text = ""
End Sub

Protected Sub DetailsView1_ItemUpdated(ByVal sender As Object, ByVal e As
System.Web.UI.WebControls.DetailsViewUpdatedEventArgs)
    ' Create and initialize a new Checkbox for DataManagement.
    Dim chkGView As System.Web.UI.WebControls.CheckBox
    chkGView = DetailsView1.FindControl("checkbox8")
    ' Create and initialize a new Checkbox for Electronic Commerce.
    Dim chkGView1 As System.Web.UI.WebControls.CheckBox
    chkGView1 = DetailsView1.FindControl("checkbox9")
    ' Create and initialize a new Checkbox for General.
    Dim chkGView2 As System.Web.UI.WebControls.CheckBox
    chkGView2 = DetailsView1.FindControl("checkbox10")
    ' Create and initialize a new Checkbox for Network Administration &
Security.
    Dim chkGView3 As System.Web.UI.WebControls.CheckBox
    chkGView3 = DetailsView1.FindControl("checkbox12")
    ' Create and initialize a new Checkbox for Healthcare Information
System.
    Dim chkGView4 As System.Web.UI.WebControls.CheckBox
    chkGView4 = DetailsView1.FindControl("checkbox11")
    ' Create and initialize a new RadioButton for radBtnView.
    Dim radBtnView As System.Web.UI.WebControls.RadioButton
    radBtnView = DetailsView1.FindControl("radiobutton2")
    'Create and inititalize a new Label for StdIDLabel
    Dim StdIDLabel As System.Web.UI.WebControls.Label
    StdIDLabel = DetailsView1.FindControl("Label1")

    Dim SelectString As String = "SELECT DISTINCT [Course_Code],
[Course_Description], [Course_Type] FROM [MSISCourses] WHERE ((([Course_Type]
= 'Core') AND [Course_Code] NOT IN (SELECT DISTINCT [Co_Code] FROM
[StudentCourses] Where ([Student_ID] = txtStdID))) OR ((([Course_Type] =
'Information Integration Project') AND [Course_Code] NOT IN (SELECT DISTINCT
[Co_Code] FROM [StudentCourses] Where ([Student_ID] = txtStdID)))"

```

```

'Retrieve knowledge courses once the yes Radio Button is clicked from
database.
    If radBtnView.Checked = True Then
SelectString = SelectString & "OR ([Course_Type] = 'Knowledge') AND
[Course_Code] NOT IN (SELECT DISTINCT [Co_Code] FROM [StudentCourses] Where
([Student_ID] = txtStdID))"
        End If
'Retrieve Data Management Specialization courses once the chkGView
Checkbox is clicked.
    If chkGView.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] = 'Data
Management') AND [Course_Code] NOT IN (SELECT DISTINCT [Co_Code] FROM
[StudentCourses] Where ([Student_ID] = txtStdID))"
        End If

'Retrieve General Specialization courses once the chkGView2 Checkbox
is clicked.
    If chkGView2.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] = 'General')
AND [Course_Code] NOT IN (SELECT DISTINCT [Co_Code] FROM [StudentCourses]
Where ([Student_ID] = txtStdID))"
        End If

'Retrieve Electronic Commerce Specialization courses once the
chkGView1 Checkbox is clicked.
    If chkGView1.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] =
'Electronic Commerce') AND [Course_Code] NOT IN (SELECT DISTINCT [Co_Code]
FROM [StudentCourses] Where ([Student_ID] = txtStdID))"
        End If

'Retrieve Network Administration Specialization courses once the
chkGView3 Checkbox is clicked.
    If chkGView3.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] = 'Network
Administration and Security') AND [Course_Code] NOT IN (SELECT DISTINCT
[Co_Code] FROM [StudentCourses] Where ([Student_ID] = txtStdID))"
        End If

'Retrieve Healthcare Information Systems Specialization courses once
the chkGView4 Checkbox is clicked.
    If chkGView4.Checked = True Then
        SelectString = SelectString & " OR ([Specialization] =
'Healthcare Information Systems') AND [Course_Code] NOT IN (SELECT DISTINCT
[Co_Code] FROM [StudentCourses] Where ([Student_ID] = 'txtStdID))"
        End If

SqlDataSource3.SelectCommand = SelectString

'Create and initialize a new textbox for txtDate1
Dim txtDate1 As System.Web.UI.WebControls.TextBox
txtDate1 = DetailsView1.FindControl("DateTextBox")

'confirm date format in mm/dd/yyyy to be valid before proceeding
Try
    Dim myDateTimeUS As System.DateTime
    Dim format As New System.Globalization.CultureInfo("en-US", True)

```

```

        myDateTimeUS = System.DateTime.Parse(txtDate1.Text, format)
        Panel1.Visible = False
        Panel5.Visible = True
    Catch ex As Exception
        Panel1.Visible = True
        ' Panel5.Visible = False
        MsgBox("Invalid Date: Enter Date in mm/dd/yyyy Format")
        'Response.Write(ex.Message)
    End Try
    If IsValid Then
        MsgBox("Student Information Successfully Updated, Click O.k To
Update Courses")
        Panel5.Visible = True
        Panel1.Visible = False
    End If
End Sub

Sub GridView2_SelectedIndexChanged(ByVal sender As Object, ByVal e As
EventArgs)
    ' Display the primary key value of the selected row.
    CoCodeLbl.Text = GridView2.SelectedDataKey.Value.ToString()
End Sub

Protected Sub LinkButton3_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'call the non delete function and returns the page upon the users
change of mind to delete any field
    Me.Panel6.Visible = True
    Me.Panel2.Visible = False
    Me.Panel3.Visible = False
    Me.Panel4.Visible = False

    ' LblMessage.Text = ""
End Sub

Protected Sub PreviewBtn_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Reveal the next page for student to view selected and added courses
    GridView4.DataBind()
    Panel7.Visible = True
    'Make panel3 invisible
    Panel5.Visible = False
End Sub

Protected Sub DetailsView2_ItemUpdated(ByVal sender As Object, ByVal e As
System.Web.UI.WebControls.DetailsViewUpdatedEventArgs)
    If IsValid Then
        'Display Student Information Page
        Panel6.Visible = True
        'Hide the
        Panel4.Visible = False
    End If
    'Create and initialize a new textbox for txtDate2
    Dim txtDate2 As System.Web.UI.WebControls.TextBox
    txtDate2 = DetailsView2.FindControl("Textbox6")

    'confirm date formate in mm/dd/yyyy to be valid before proceeding

```

```

Try
    Dim myDateTimeUS As System.DateTime
    Dim format As New System.Globalization.CultureInfo("en-US", True)
    myDateTimeUS = System.DateTime.Parse(txtDate2.Text, format)
    Panel6.Visible = True
    Panel4.Visible = False
Catch ex As Exception
    Panel6.Visible = False
    Panel4.Visible = True
    MsgBox("Invalid Date: Enter Date in mm/dd/yyyy Format")
    'Response.Write(ex.Message)
End Try
End Sub

Protected Sub BtnProceed_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles BtnProceed.Click
    'Ensure All Required Courses are deleted before Submitting
    Dim grow As GridViewRow, allselected As Boolean = True
    For Each grow In Gridview1.Rows
        If grow.RowType = DataControlRowType.DataRow Then
            Dim lb As LinkButton = grow.FindControl("LinkButton1")
            If Not lb.CommandArgument = "set" Then
                allselected = False
                ' grow.BackColor = Drawing.Color.Red
            Exit For
        End If
    End If
Next
If allselected = True Then
    'Sends a Notification E-Mail to Administrator that a Named
Graduate Student has successfully Deleted Previously Submitted Plan of Study.
    Dim S, N, T As String
    S = EmailTextBox.Text
    N = txtStdID.Text
    T = NameTextBox.Text
    MailHelper.SendMailMessage(S, "aa@pluto.dsu.edu", "", "", "MSIS
PlanOfStudy Notification E-Mail", "MSIS Graduate Plan Of Study Successfully
Deleted, Notification will be sent upon Successful completion of New Plan of
Study by Graduate Student: " & T & N)

    ' Then Perform Code for all selected
    'Panel8.Visible = True
    Response.Redirect("Plan_Of_Study.aspx")
    'Ensure that on successful completion, students are unable to go
back to previous page. They have to exit and close the browser.
    Response.Cache.SetCacheability(HttpCacheability.NoCache)
Else
    ' Message to select all
    lblNext.Text = "ERROR: Delete the Highlighted Row to PROCEED!!!"
End If
End Sub

Protected Sub BtnAddCourse_Click(ByVal sender As Object, ByVal e As
System.EventArgs)
    'Ensure that Student Select a particular course only once: Brings out
a message if a course has been selected and added before

```

```

        Dim lb As LinkButton =
GridView2.SelectedRow.FindControl("LinkButton4")
        If lb.CommandArgument = "set" Then
            CoCodeLbl1.Text = "Already Submitted:Select Another"
        Else
            lb.CommandArgument = "set"
            'Insert Students Courses into the StudentCourses table
            Try
                InsertCourseSqlData.Insert()
            Catch except As Exception
            End Try
        End If
    End Sub

    Protected Sub BtnClose_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles BtnClose.Click
        'Successful Completion Page is displayed
        If IsValid Then
            'Response.Redirect("Submit.aspx")
            Panel8.Visible = True
            Panel6.Visible = False
            Panel5.Visible = False
            'Sends a Notification E-Mail to Administrator that a Named
Graduate Student has successfully completed Plan of Study.
            Dim S, N, T As String
            S = EmailTextBox.Text
            N = txtStdID.Text
            T = NameTextBox.Text
            MailHelper.SendMailMessage(S, "aa@pluto.dsu.edu", "", "", "MSIS
PlanOfStudy Notification E-Mail", "MSIS Graduate Plan Of Study Successfully
Modified/Updated by: " & T & N)
            'Ensure that on successful completion, students are unable to go
back to previous page. They have to exit and close the browser.
            Response.Cache.SetCacheability(HttpCacheability.NoCache)

        End If
    End Sub

    Protected Sub LinkButton5_Click(ByVal sender As Object, ByVal e As
System.EventArgs)

        'call the non delete function and returns the page upon the users
change of mind to delete any field
        Me.Panel7.Visible = True
        NextLabel.Text = ""
    End Sub

    Protected Sub BackButton_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles BackButton.Click
        'Calls the last page to avoid using back browser button
        If IsValid Then
            Panel7.Visible = False
            Panel5.Visible = True
            NextLabel.Text = ""
        End If
    End Sub

```

```
Protected Sub SubmitButton_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles SubmitButton.Click
```

'Used to ensure that Student Select all required course before they can submit and at least one Knowledge course if they choose to take any knowledge course.

```
Dim grow As GridViewRow, allselected As Boolean = True
For Each grow In GridView2.Rows
    If grow.RowType = DataControlRowType.DataRow Then
        Dim i As Integer = grow.RowIndex
        Select Case GridView2.DataKeys(i)(0).ToString
            Case "INFS601", "INFS605", "INFS612", "INFS788-c"
            Case Else
                Dim lb As LinkButton =
grow.FindControl("LinkButton4")
                If Not lb.CommandArgument = "set" Then
                    allselected = False
                    Exit For
                End If
            End Select
        End If
    End If
Next

If allselected = True Then
    'Reveal the last page on successful completion of Students Plan
of study
    'Response.Redirect("Submit.aspx")
    Panel8.Visible = True
    'Hide the previous page on successful completion of the plan of
Study.
    Panel7.Visible = False
    'Sends a Notification E-Mail to Administrator that a Named
Graduate Student has successfully completed Plan of Study.
    Dim S, N, T As String
    S = EmailTextBox.Text
    N = txtStdID.Text
    T = NameTextBox.Text
    MailHelper.SendMailMessage(S, "aa@pluto.dsu.edu", "", "", "MSIS
PlanOfStudy Notification E-Mail", "MSIS Graduate Plan Of Study Successfully
Modified by: " & T & N)
    'Ensure that on successful completion, students are unable to go
back to previous page. They have to exit and close the browser.
    Response.Cache.SetCacheability(HttpCacheability.NoCache)
Else
    ' Message to select all
    NextLabel.Text = "'You have courses left to Complete before
Submitting. Click on the back button and select the highlighted Courses to
Proceed!'"
    End If
End Sub
```

```
Protected Sub Button2_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button2.Click
```

```
    If IsValid Then
        Panel1.Visible = False
        Panel3.Visible = True
```



```

        End If
    End Sub

    Protected Sub Button3_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button3.Click
        If IsValid Then
            Panel4.Visible = False
            Panel3.Visible = True
        End If
    End Sub

    Protected Sub Button4_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button4.Click
        If IsValid Then
            Panel5.Visible = False
            Panel11.Visible = True
        End If
    End Sub

    Protected Sub Button5_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button5.Click
        If IsValid Then
            Panel6.Visible = False
            Panel4.Visible = True
        End If
    End Sub
End Class

```

1.3 Graduate Interface Webconfig File Source code

```

<?xml version="1.0"?>

<configuration xmlns="http://schemas.microsoft.com/.NetConfiguration/v2.0">
    <appSettings/>
    <connectionStrings>
        <add name="MSIS_POSConnectionString1"
connectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data Source=C:\Documents
and Settings\Olusola Ayodele\My Documents\Visual Studio
2005\Websites\Website1\MSIS_POS.mdb;"
        providerName="System.Data.OleDb" />
        <add name="ASPNETDBConnectionString1" connectionString="Data
Source=.\SQLEXPRESS;AttachDbFilename=|DataDirectory|\ASPNETDB.MDF;Integrated
Security=True;User Instance=True"
        providerName="System.Data.SqlClient" />
        <add name="MSIS_POSConnectionString"
connectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data Source=C:\Documents
and Settings\Olusola Ayodele\My Documents\Visual Studio
2005\WebSites\WebSite1\MSIS_POS.mdb"
        providerName="System.Data.OleDb" />
    </connectionStrings>
    <system.web>

        <!--
        Set compilation debug="true" to insert debugging
        symbols into the compiled page. Because this

```

affects performance, set this value to true only during development.

Visual Basic options:

Set `strict="true"` to disallow all data type conversions where data loss can occur.

Set `explicit="true"` to force declaration of all variables.

```
-->
<compilation debug="true" strict="false" explicit="true"/>
  <pages>
    <namespaces>
      <clear/>
      <add namespace="System"/>
      <add namespace="System.Collections"/>
      <add namespace="System.Collections.Specialized"/>
      <add namespace="System.Configuration"/>
      <add namespace="System.Text"/>
      <add namespace="System.Text.RegularExpressions"/>
      <add namespace="System.Web"/>
      <add namespace="System.Web.Caching"/>
      <add namespace="System.Web.SessionState"/>
      <add namespace="System.Web.Security"/>
      <add namespace="System.Web.Profile"/>
      <add namespace="System.Web.UI"/>
      <add namespace="System.Web.UI.WebControls"/>
      <add namespace="System.Web.UI.WebControls.WebParts"/>
      <add namespace="System.Web.UI.HtmlControls"/>
    </namespaces>
  </pages>
  <!--
The <authentication> section enables configuration
of the security authentication mode used by
ASP.NET to identify an incoming user.
-->
  <authentication mode="Forms" />
  <!--
The <customErrors> section enables configuration
of what to do if/when an unhandled error occurs
during the execution of a request.
-->
  </system.web>
</system.net>
  <mailSettings>
    <smtp from="">
      <network host="pluto.dsu.edu" port="25" userName="awonugao" password=""
/>
    </smtp>
  </mailSettings>
</system.net>
</configuration>
```

2. Interface 2: Administrative Interface

1.1. Login Page source code

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Login.aspx.vb"
Inherits="Login" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="text-align: center">
            <br />
            <br />
            <asp:Login ID="Login1" runat="server" Font-Bold="True" Font-
Size="Large" ForeColor="DarkSlateBlue" TitleText="Administrator Log In">
                <TitleTextStyle BackColor="White" Font-Bold="True" Font-
Italic="True" Font-Size="X-Large"
                    ForeColor="#0000C0" />
            </asp:Login>
            <asp:ValidationSummary ID="ValidationSummary1" runat="server"
ValidationGroup="Login1" />

        </div>
    </form>
</body>
</html>

```

2.2. Default: Administrative interface source code

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Default.aspx.vb"
Inherits="_Default" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="text-align: center">
            <span>
                <br />
                <br />
            </span><strong><span style="font-size: 14pt"><span style="font-size:
16pt; color: #0000cc;
                font-family: Georgia">
                    Administrator Only! Access Login Page.</span><br />
                </span></strong>
            <br />
        </div>
    </form>
</body>
</html>

```

```

        <asp:LoginStatus ID="LoginStatus1" runat="server" Font-Size="Large"
ForeColor="#0000C0" />
        &nbsp;&nbsp;&nbsp;<asp:LoginView ID="LoginView1" runat="server">
            <LoggedInTemplate>
                <span style="font-size: 14pt; color: #0000cc">
                    You are logged in. Welcome!</span>&nbsp;<asp:LoginName
ID="LoginName1" runat="server" Font-Size="Large" ForeColor="#0000C0" />
                <br />
                <br />
                <asp:HyperLink ID="HyperLink3" runat="server"
NavigateUrl="~/MembersPage/ChangePassword.aspx" Font-Size="Large"
ForeColor="#0000C0">Change Password</asp:HyperLink>
                <br />
                <br />
                <asp:HyperLink ID="HyperLink5" runat="server"
NavigateUrl="~/MembersPage/Members.aspx"
                    Width="191px" Font-Size="Large"
ForeColor="#0000C0">Administrator Page</asp:HyperLink>
            </LoggedInTemplate>
            <AnonymousTemplate>
                <span style="font-size: 14pt; color: #0000cc">
                    You are not Logged in. Click the login link to Sign in.<br />
                </span>
                <br />
                <asp:HyperLink ID="HyperLink2" runat="server"
NavigateUrl="~/Register.aspx" Width="165px" Font-Size="Large"
ForeColor="#0000C0">Register New User</asp:HyperLink><br />
                <br />
                <asp:HyperLink ID="HyperLink4" runat="server"
NavigateUrl="~/RecoverPassword.aspx"
                    Width="232px" Font-Size="Large"
ForeColor="#0000C0">Forgot Your Password?</asp:HyperLink>
            </AnonymousTemplate>
        </asp:LoginView>

    </div>
    <br />
    &nbsp;&nbsp;&
</form>
</body>
</html>

```

2.3. Members Page source code

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Members.aspx.vb"
Inherits="MembersPage_Members" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<script runat="server">

</script>
<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">

```

[illegible]


```

        <asp:BoundField DataField="Yr_OfficiallyAdmitted"
HeaderText="Year Officially Admitted"
        SortExpression="Yr_OfficiallyAdmitted" />
        <asp:BoundField DataField="Sem_Expected" HeaderText="Semester
Expected To Graduate"
        SortExpression="Sem_Expected" />
        <asp:BoundField DataField="Yr_Expected" HeaderText="Year
Expected To Graduate" SortExpression="Yr_Expected" />
        <asp:BoundField DataField="Date" HeaderText="Date"
SortExpression="Date" />
        <asp:BoundField DataField="Advisor_Name" HeaderText="Advisor
Name" SortExpression="Advisor_Name" />
        <asp:CheckBoxField DataField="Specialization_DataManagement"
HeaderText="Specialization: Data Management"
        SortExpression="Specialization_DataManagement" />
        <asp:CheckBoxField
DataField="Specialization_ElectronicCommerce" HeaderText="Specialization:
Electronic Commerce"
        SortExpression="Specialization_ElectronicCommerce" />
        <asp:CheckBoxField DataField="Specialization_General"
HeaderText="Specialization: General"
        SortExpression="Specialization_General" />
        <asp:CheckBoxField
DataField="Specialization_HealthcareInformationSystems"
HeaderText="Specialization: Healthcare Information Systems"

SortExpression="Specialization_HealthcareInformationSystems" />
        <asp:CheckBoxField
DataField="Specialization_NetworkAdministration" HeaderText="Specialization:
Network Administration & Security"
        SortExpression="Specialization_NetworkAdministration" />
        <asp:CheckBoxField DataField="Knowledge_Yes"
HeaderText="Knowledge: Yes" SortExpression="Knowledge_Yes" />
        <asp:CheckBoxField DataField="Knowledge_No"
HeaderText="Knowledge: No" SortExpression="Knowledge_No" />
    </Fields>
</asp:DetailsView>
    <asp:SqlDataSource ID="SqlDataSource3" runat="server"
ConnectionString="<%= $ ConnectionStrings:MSIS_POSConnectionString %>"
        ProviderName="<%= $
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT DISTINCT * FROM [StudentInformation] WHERE
([Student_ID] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="DropDownList1"
Name="Student_ID" PropertyName="SelectedValue"
                Type="Int32" />
        </SelectParameters>
    </asp:SqlDataSource>

    <asp:GridView ID="GridView1" runat="server"
DataSourceID="SqlDataSource2"
        EmptyDataText="There are no data records to display."
Visible="False" BackColor="#FFC0FF" BorderColor="#999999" BorderStyle="Solid"
BorderWidth="3px" CellPadding="4" CellSpacing="2" ForeColor="#0000C0"
AllowSorting="True" AutoGenerateColumns="False" Font-Bold="False" Font-
Names="Georgia" Font-Size="Large" Width="1001px">

```



```

        <FooterStyle BackColor="#CCCCCC" />
        <RowStyle BackColor="White" />
        <SelectedRowStyle BackColor="#000099" Font-Bold="True"
ForeColor="White" />
        <PagerStyle ForeColor="Black" HorizontalAlign="Left"
BackColor="#CCCCCC" />
        <HeaderStyle BackColor="Teal" Font-Bold="True" ForeColor="White"
Font-Size="Large" />
        <Columns>
            <asp:BoundField DataField="Co_Code" HeaderText="Course Code"
SortExpression="Co_Code" />
            <asp:BoundField DataField="Co_Description" HeaderText="Course
Description" SortExpression="Co_Description" />
            <asp:BoundField DataField="Cr_Hr" HeaderText="Credit Hour"
SortExpression="Cr_Hr" />
            <asp:BoundField DataField="Co_Type" HeaderText="Course Type"
SortExpression="Co_Type" />
            <asp:BoundField DataField="Sem_Taken" HeaderText="Semester
Taken" SortExpression="Sem_Taken" />
            <asp:BoundField DataField="Yr_Taken" HeaderText="Year Taken"
SortExpression="Yr_Taken" />
            <asp:BoundField DataField="Co_Method" HeaderText="Course
Method" SortExpression="Co_Method" />
            <asp:BoundField DataField="Grade" HeaderText="Grade"
SortExpression="Grade" />
        </Columns>
    </asp:GridView>
    <asp:SqlDataSource ID="SqlDataSource2" runat="server"
ConnectionString="<%= ConnectionStrings:MSIS_POSConnectionString %>"
ProviderName="<%=
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
SelectCommand="SELECT [Co_Code], [Co_Description], [Cr_Hr],
[Co_Type], [Sem_Taken], [Yr_Taken], [Co_Method], [Grade] FROM
[StudentCourses] WHERE ([Student_ID] = ?)">
        <SelectParameters>
            <asp:ControlParameter ControlID="DropDownList1"
Name="Student_ID" PropertyName="SelectedValue"
Type="Int32" />
        </SelectParameters>
    </asp:SqlDataSource>
    <asp:Panel ID="Panel2" runat="server" visible = "false" Height="65px"
Width="1230px">
        <div id="div1" style="float: left; overflow: auto; width: 67%;
height: 843px">
            <span style="font-size: 14pt; color: #0000cc; font-family:
Georgia;"><strong>
                <asp:Button ID="Button3" runat="server" Text="Admin Page"
/>&nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; <asp:DropDownList ID="DropDownList3"
runat="server" DataSourceID="SqlDataSource7" DataTextField="Course_Code"
DataValueField="Course_Code">
                    </asp:DropDownList>
                    &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; &nbsp; <asp:TextBox ID="TextBox9" runat="server"
Width="121px"></asp:TextBox>
                    <asp:Button ID="Button4" runat="server" Text="Button" />

```



```

        BorderWidth="3px" CellPadding="4" CellSpacing="2"
DataKeyNames="Course_Code,Credit_Hr,Specialization"
        DataSourceID="SqlDataSource5" ForeColor="#0000C0"
Width="791px" Font-Bold="True" Font-Names="Georgia">
        <FooterStyle BackColor="#CCCCC" />
        <Columns>
            <asp:CommandField ShowEditButton="True" />
            <asp:TemplateField HeaderText="Course Code"
SortExpression="Course_Code">
                <EditItemTemplate>
                    <asp:TextBox ID="TextBox6" runat="server"
Text='<## Bind("Course_Code") %>' Width="68px"></asp:TextBox>
                    <asp:RequiredFieldValidator
ID="RequiredFieldValidator3" runat="server" ControlToValidate="TextBox6"
ErrorMessage="*"></asp:RequiredFieldValidator>
                </EditItemTemplate>
                <ItemTemplate>
                    <asp:Label ID="Label1" runat="server" Text='<##
Bind("Course_Code") %>'></asp:Label>
                </ItemTemplate>
            </asp:TemplateField>
            <asp:TemplateField HeaderText="Course Description"
SortExpression="Course_Description">
                <EditItemTemplate>
                    <asp:TextBox ID="TextBox1" runat="server"
Text='<## Bind("Course_Description") %>'></asp:TextBox>
                </EditItemTemplate>
                <ItemTemplate>
                    <asp:Label ID="Label2" runat="server" Text='<##
Bind("Course_Description") %>'></asp:Label>
                </ItemTemplate>
            </asp:TemplateField>
            <asp:TemplateField HeaderText="Credit Hr"
SortExpression="Credit_Hr">
                <EditItemTemplate>
                    <asp:TextBox ID="TextBox7" runat="server"
Text='<## Bind("Credit_Hr") %>'
Width="16px"></asp:TextBox><asp:RequiredFieldValidator
ID="RequiredFieldValidator4" runat="server"
ControlToValidate="TextBox7" ErrorMessage="*"></asp:RequiredFieldValidator>
                </EditItemTemplate>
                <ItemTemplate>
                    <asp:Label ID="Label3" runat="server" Text='<##
Bind("Credit_Hr") %>'></asp:Label>
                </ItemTemplate>
            </asp:TemplateField>
            <asp:TemplateField HeaderText="Course Type"
SortExpression="Course_Type">
                <EditItemTemplate>
                    <asp:TextBox ID="TextBox2" runat="server"
Text='<## Bind("Course_Type") %>' Width="142px"></asp:TextBox>
                    <asp:RequiredFieldValidator
ID="RequiredFieldValidator5" runat="server" ControlToValidate="TextBox2"
ErrorMessage="*"></asp:RequiredFieldValidator>
                </EditItemTemplate>

```

```

        <ItemTemplate>
            <asp:Label ID="Label4" runat="server" Text='<##
Bind("Course_Type") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Course Method"
SortExpression="Course_Method">
        <EditItemTemplate>
            <asp:TextBox ID="TextBox3" runat="server"
Text='<## Bind("Course_Method") %>'></asp:TextBox>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label5" runat="server" Text='<##
Bind("Course_Method") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField HeaderText="Specialization"
SortExpression="Specialization">
        <EditItemTemplate>
            <asp:TextBox ID="TextBox8" runat="server"
Text='<## Bind("Specialization") %>'
Width="129px"></asp:TextBox><asp:RequiredFieldValidator
ID="RequiredFieldValidator6" runat="server"
ControlToValidate="TextBox8" ErrorMessage="*"></asp:RequiredFieldValidator>
        </EditItemTemplate>
        <ItemTemplate>
            <asp:Label ID="Label6" runat="server" Text='<##
Bind("Specialization") %>'></asp:Label>
        </ItemTemplate>
    </asp:TemplateField>
    <asp:TemplateField ShowHeader="False">
        <ItemTemplate>
            <asp:LinkButton ID="LinkButton1" runat="server"
OnClick="return confirm('Are you sure you want to delete this
record?');" OnClick="LinkButton1_Click" CausesValidation="False"
CommandName="Delete"
Text="Delete"></asp:LinkButton>
        </ItemTemplate>
    </asp:TemplateField>
</Columns>
<RowStyle BackColor="White" />
<SelectedRowStyle BackColor="#000099" Font-Bold="True"
ForeColor="White" />
<PagerStyle BackColor="#CCCCC" ForeColor="Black"
HorizontalAlign="Left" />
<HeaderStyle BackColor="Teal" Font-Bold="True"
ForeColor="White" Font-Italic="False" Font-Names="Georgia" />
</asp:GridView>
<asp:SqlDataSource ID="SqlDataSource5" runat="server"
ConnectionString='<## $ ConnectionStrings:MSIS_POSConnectionString %>'
DeleteCommand="DELETE FROM [MSISCourses] WHERE [Course_Code]
= ? AND [Credit_Hr] = ? AND [Specialization] = ?"
InsertCommand="INSERT INTO [MSISCourses] ([Course_Code],
[Course_Description], [Credit_Hr], [Course_Type], [Course_Method],
[Specialization]) VALUES (?, ?, ?, ?, ?, ?)"
ProviderName='<## $
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>'

```

```

        SelectCommand="SELECT * FROM [MSISCourses]"
UpdateCommand="UPDATE [MSISCourses] SET [Course_Description] = ?,
[Course_Type] = ?, [Course_Method] = ? WHERE [Course_Code] = ? AND
[Credit_Hr] = ? AND [Specialization] = ?">
    <DeleteParameters>
        <asp:Parameter Name="Course_Code" Type="String" />
        <asp:Parameter Name="Credit_Hr" Type="Int32" />
        <asp:Parameter Name="Specialization" Type="String" />
    </DeleteParameters>
    <UpdateParameters>
        <asp:Parameter Name="Course_Description" Type="String" />
        <asp:Parameter Name="Course_Type" Type="String" />
        <asp:Parameter Name="Course_Method" Type="String" />
        <asp:Parameter Name="Course_Code" Type="String" />
        <asp:Parameter Name="Credit_Hr" Type="Int32" />
        <asp:Parameter Name="Specialization" Type="String" />
    </UpdateParameters>
    <InsertParameters>
        <asp:Parameter Name="Course_Code" Type="String" />
        <asp:Parameter Name="Course_Description" Type="String" />
        <asp:Parameter Name="Credit_Hr" Type="Int32" />
        <asp:Parameter Name="Course_Type" Type="String" />
        <asp:Parameter Name="Course_Method" Type="String" />
        <asp:Parameter Name="Specialization" Type="String" />
    </InsertParameters>
</asp:SqlDataSource>
</div>
    <div id="div2" style="float: right; overflow: auto; width: 33%;
height: 583px">
        <span style="font-size: 14pt; color: #0000cc"><span
style="font-family: Georgia"><strong>
            <br />
            <br />
            MSIS Course Availability Table</strong></span></span><br
/>
        <asp:GridView ID="GridView3" runat="server"
AllowPaging="True" AllowSorting="True"
            AutoGenerateColumns="False" BackColor="#FFC0FF"
BorderColor="#999999" BorderStyle="Solid"
            BorderWidth="3px" CellPadding="4" CellSpacing="2"
DataKeyNames="Course_Code, Semester_Av"
            DataSourceID="SqlDataSource6" ForeColor="#0000C0"
Width="402px" Font-Bold="True" Font-Names="Georgia">
            <FooterStyle BackColor="#CCCCCC" />
            <Columns>
                <asp:CommandField ShowEditButton="True" />
                <asp:TemplateField HeaderText="Course Code"
SortExpression="Course_Code">
                    <EditItemTemplate>
                        <asp:TextBox ID="TextBox4" runat="server"
Text="<%# Bind("Course_Code") %>"
Width="84px"></asp:TextBox><asp:RequiredFieldValidator
ID="RequiredFieldValidator1"
runat="server" ControlToValidate="TextBox4"
ErrorMessage="*"></asp:RequiredFieldValidator>
                    </EditItemTemplate>
                </ItemTemplate>
            </Columns>
        </asp:GridView>
    </div>

```

```

                                <asp:Label ID="Label1" runat="server"
Text= '<%# Bind("Course_Code") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:TemplateField HeaderText="Semester Available"
SortExpression="Semester_Av">
                                <EditItemTemplate>
                                <asp:TextBox ID="TextBox5" runat="server"
Text= '<%# Bind("Semester_Av") %>'
Width="74px"></asp:TextBox><asp:RequiredFieldValidator
                                ID="RequiredFieldValidator2"
runat="server" ControlToValidate="TextBox5"
ErrorMessage="*"></asp:RequiredFieldValidator>
                                </EditItemTemplate>
                                <ItemTemplate>
                                <asp:Label ID="Label2" runat="server"
Text= '<%# Bind("Semester_Av") %>'></asp:Label>
                                </ItemTemplate>
                                </asp:TemplateField>
                                <asp:BoundField DataField="Year_Av" HeaderText="Year
Available" SortExpression="Year_Av" />
                                <asp:TemplateField ShowHeader="False">
                                <ItemTemplate>
                                <asp:LinkButton ID="LinkButton2"
OnClick="return confirm('Are you sure you want to delete this
record?');" OnClick="LinkButton2_Click" runat="server"
CausesValidation="False" CommandName="Delete"
                                Text="Delete"></asp:LinkButton>
                                </ItemTemplate>
                                </asp:TemplateField>
                                </Columns>
                                <RowStyle BackColor="White" />
                                <SelectedRowStyle BackColor="#000099" Font-Bold="True"
ForeColor="White" />
                                <PagerStyle BackColor="#CCCCCC" ForeColor="Black"
HorizontalAlign="Left" />
                                <HeaderStyle BackColor="Teal" Font-Bold="True"
ForeColor="White" />
                                </asp:GridView>
                                <asp:SqlDataSource ID="SqlDataSource6" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
                                DeleteCommand="DELETE FROM [Course_Availability] WHERE
[Course_Code] = ? AND [Semester_Av] = ?"
                                InsertCommand="INSERT INTO [Course_Availability]
([Course_Code], [Semester_Av], [Year_Av]) VALUES (?, ?, ?)"
                                ProviderName="<%%$
ConnectionStrings:MSIS_POSConnectionString.ProviderName %>"
                                SelectCommand="SELECT * FROM [Course_Availability]"
UpdateCommand="UPDATE [Course_Availability] SET [Year_Av] = ? WHERE
[Course_Code] = ? AND [Semester_Av] = ?">
                                <DeleteParameters>
                                <asp:Parameter Name="Course_Code" Type="String" />
                                <asp:Parameter Name="Semester_Av" Type="String" />
                                </DeleteParameters>
                                <UpdateParameters>
                                <asp:Parameter Name="Year_Av" Type="Int32" />
                                <asp:Parameter Name="Course_Code" Type="String" />

```

```

        <asp:Parameter Name="Semester_Av" Type="String" />
    </UpdateParameters>
    <InsertParameters>
        <asp:Parameter Name="Course_Code" Type="String" />
        <asp:Parameter Name="Semester_Av" Type="String" />
        <asp:Parameter Name="Year_Av" Type="Int32" />
    </InsertParameters>
</asp:SqlDataSource>
</div>
</asp:Panel>
</form>
</body>
</html>

```

2.4. Edit Interface source code

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Edit.aspx.vb"
Inherits="Edit" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="text-align: left">

            <br />
            <span style="color: #0000cc; font-family: Georgia; font-size:
16pt;"> <strong>
                Welcome! Administrator<br />
                <br />
                <asp:Panel ID="Panel2" runat="server" Height="288px"
Width="1122px">
                    <em><span style="font-size: 14pt; color: #333366">&nbsp;
All fields are required, enter atleast N/A or Null<br />
                    </span></em>

                    <p>
                        <span style="font-size: 14pt; color: #0000cc">Course Code
</span><asp:TextBox
                            ID="CodeTxtBox" runat="server" Width="94px"></asp:TextBox>
                        <asp:RequiredFieldValidator ID="RequiredFieldValidator1"
runat="server" ControlToValidate="CodeTxtBox"
                            ErrorMessage="*"></asp:RequiredFieldValidator><span style="font-
size: 14pt">
                            &nbsp; <span style="color: #0000cc">Course Description</span></span>
                        <asp:TextBox ID="CoDesTxtBox" runat="server"
Width="300px"></asp:TextBox>
                        <asp:RequiredFieldValidator ID="RequiredFieldValidator2"
runat="server" ControlToValidate="CoDesTxtBox"
                            ErrorMessage="*"></asp:RequiredFieldValidator>
                        &nbsp;
                    <br />

```



```

        <asp:HyperLink ID="HyperLink1"
            runat="server" Font-Bold="True" ForeColor="#0000C0"
NavigateUrl="~/MembersPage/Members.aspx" Font-
Size="Small">Back</asp:HyperLink><span
            style="font-size: 12pt"> &nbsp; &nbsp; &nbsp; </span>
        <asp:HyperLink ID="CloseHypLink" runat="server"
NavigateUrl="~/Default.aspx" Width="158px" Font-Bold="True"
ForeColor="#0000C0" Font-Names="Georgia" Font-Size="Small">Return To
HomePage</asp:HyperLink><span
            style="font-size: 12pt"> </span>

</p>
<p>

        <span style="font-size: 16pt; color: #660099; font-family: Georgia">
            <asp:SqlDataSource ID="SqlDataSource1" runat="server"
ConnectionString="<%$ ConnectionStrings:MSIS_POSConnectionString %>"
                DeleteCommand="DELETE FROM [MSISCourses] WHERE [Course_Code]
= ?" InsertCommand="INSERT INTO [MSISCourses] ([Course_Code],
[Course_Description], [Credit_Hr], [Course_Type], [Course_Method],
[Specialization]) VALUES (?, ?, ?, ?, ?)"
                ProviderName="<%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
                SelectCommand="SELECT * FROM [MSISCourses]"
UpdateCommand="UPDATE [MSISCourses] SET [Course_Description] = ?, [Credit_Hr]
= ?, [Course_Type] = ?, [Course_Method] = ?, [Specialization] = ? WHERE
[Course_Code] = ?">
                <DeleteParameters>
                    <asp:Parameter Name="Course_Code" Type="String" />
                </DeleteParameters>
                <UpdateParameters>
                    <asp:Parameter Name="Course_Description" Type="String" />
                    <asp:Parameter Name="Credit_Hr" Type="Int32" />
                    <asp:Parameter Name="Course_Type" Type="String" />
                    <asp:Parameter Name="Course_Method" Type="String" />
                    <asp:Parameter Name="Specialization" Type="String" />
                    <asp:Parameter Name="Course_Code" Type="String" />
                </UpdateParameters>
                <InsertParameters>
                    <asp:ControlParameter ControlID="CodeTxtBox"
Name="Course_Code" PropertyName="Text"
                        Type="String" />
                    <asp:ControlParameter ControlID="CoDesTxtBox"
Name="Course_Description" PropertyName="Text"
                        Type="String" />
                    <asp:ControlParameter ControlID="CrHrTxtBox"
Name="Credit_Hr" PropertyName="Text"
                        Type="Int32" />
                    <asp:ControlParameter ControlID="CoTypeTxtBox"
Name="Course_Type" PropertyName="Text"
                        Type="String" />
                    <asp:ControlParameter ControlID="CoMtdTxtBox"
Name="Course_Method" PropertyName="Text"
                        Type="String" />
                    <asp:ControlParameter ControlID="SpecTxtBox"
Name="Specialization" PropertyName="Text"
                        Type="String" />
                </InsertParameters>

```



```

        </asp:SqlDataSource>
    </span>
    <span style="font-size: 16pt; color: #660099; font-family:
Georgia">
        <asp:SqlDataSource ID="SqlDataSource2" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        DeleteCommand="DELETE FROM [Course_Availability] WHERE
[Course_Code] = ? AND [Semester_Av] = ?"
        InsertCommand="INSERT INTO [Course_Availability]
([Course_Code], [Semester_Av], [Year_Av]) VALUES (?, ?, ?)"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT * FROM [Course_Availability]"
UpdateCommand="UPDATE [Course_Availability] SET [Year_Av] = ? WHERE
[Course_Code] = ? AND [Semester_Av] = ?">
        <DeleteParameters>
            <asp:Parameter Name="Course_Code" Type="String" />
            <asp:Parameter Name="Semester_Av" Type="String" />
        </DeleteParameters>
        <UpdateParameters>
            <asp:Parameter Name="Year_Av" Type="Int32" />
            <asp:Parameter Name="Course_Code" Type="String" />
            <asp:Parameter Name="Semester_Av" Type="String" />
        </UpdateParameters>
        <InsertParameters>
            <asp:ControlParameter ControlID="CodeTextBox"
Name="Course_Code" PropertyName="Text"
                Type="String" />
            <asp:ControlParameter ControlID="FallDropDown"
Name="Semester_Av" PropertyName="SelectedValue"
                Type="String" />
            <asp:Parameter Name="Year_Av" Type="Int32" />
        </InsertParameters>
    </asp:SqlDataSource>
    <asp:SqlDataSource ID="SqlDataSource3" runat="server"
ConnectionString="<%%$ ConnectionStrings:MSIS_POSConnectionString %>"
        DeleteCommand="DELETE FROM [Course_Availability] WHERE
[Course_Code] = ? AND [Semester_Av] = ?"
        InsertCommand="INSERT INTO [Course_Availability]
([Course_Code], [Semester_Av], [Year_Av]) VALUES (?, ?, ?)"
        ProviderName="<%%$
ConnectionString:MSIS_POSConnectionString.ProviderName %>"
        SelectCommand="SELECT * FROM [Course_Availability]"
UpdateCommand="UPDATE [Course_Availability] SET [Year_Av] = ? WHERE
[Course_Code] = ? AND [Semester_Av] = ?">
        <DeleteParameters>
            <asp:Parameter Name="Course_Code" Type="String" />
            <asp:Parameter Name="Semester_Av" Type="String" />
        </DeleteParameters>
        <UpdateParameters>
            <asp:Parameter Name="Year_Av" Type="Int32" />
            <asp:Parameter Name="Course_Code" Type="String" />
            <asp:Parameter Name="Semester_Av" Type="String" />
        </UpdateParameters>
        <InsertParameters>
            <asp:ControlParameter ControlID="CodeTextBox"
Name="Course_Code" PropertyName="Text"

```



```

        <strong>To Insert more Records Click
here.</strong></span> </span>
        <asp:Button ID="Button2" runat="server" Font-Bold="True"
Font-Names="Georgia" Font-Size="Medium"
        ForeColor="#0000C0" Text="Add More Course(s)"
Width="205px" /></asp:Panel>
        &nbsp;  </p>
    </div>
</form>
</body>
</html>

```

VB.Net Code Behind

Partial Class Edit

Inherits System.Web.UI.Page

Protected Sub btnInsert(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button1.Click

Try

SqlDataSource1.Insert()

SqlDataSource2.Insert()

SqlDataSource3.Insert()

SqlDataSource4.Insert()

Catch ex As Exception

End Try

MsgLabel.Text = "Records Inserted Successfully!"

Panel1.Visible = True

Panel2.Visible = False

End Sub

Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load

CodeTextBox.Focus()

End Sub

Protected Sub Button2_Click(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Button2.Click

CodeTextBox.Text = ""

CoDesTextBox.Text = ""

CoTypeTextBox.Text = ""

CoMtdTextBox.Text = ""

CrHrTextBox.Text = ""

SpecTextBox.Text = ""

FallDropDown.SelectedValue = ""

SprDropDown.SelectedValue = ""

SumDropDown.SelectedValue = ""

Panel1.Visible = False

Panel2.Visible = True

End Sub

End Class

2.5. Change Password source code

```

<%@ Page Language="VB" AutoEventWireup="false"
CodeFile="ChangePassword.aspx.vb" Inherits="MembersPage_ChangePassword" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="text-align: center">
            <br />
            <br />
            <asp:ChangePassword ID="ChangePassword1" runat="server"
ContinueDestinationPageUrl="~/Default.aspx" Font-Bold="True" Font-
Size="Large" ForeColor="#0000C0">
                </asp:ChangePassword>

        </div>
    </form>
</body></html>

```

2.6. Recover Password source code

```

<%@ Page Language="VB" AutoEventWireup="false"
CodeFile="RecoverPassword.aspx.vb" Inherits="PasswordRecovery" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body style="text-align: center">
    <form id="form1" runat="server">
        <div style="text-align: center">
            <br />
            <br />
            <asp>PasswordRecovery ID="PasswordRecovery1" runat="server" Font-
Bold="True" Font-Italic="False" Font-Size="Large" ForeColor="#0000C0"
SuccessText="Your password has been sent to your registered e-mail account.">
                </asp>PasswordRecovery>

        </div>
        <asp:HyperLink ID="HyperLink1" runat="server"
NavigateUrl="~/Default.aspx" Font-Bold="True" ForeColor="#0000C0">Return
Home</asp:HyperLink>
    </form>
</body>
</html>

```

2.7. Register New Member source code

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Register.aspx.vb"
Inherits="Register" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>Untitled Page</title>
</head>
<body style="text-align: center">
    <form id="form1" runat="server">
        <div style="text-align: center">
            <br />
            <asp:CreateUserWizard ID="CreateUserWizard1" runat="server"
ContinueDestinationPageUrl="~/Default.aspx" Font-Size="Large"
ForeColor="#0000C0">
                <WizardSteps>
                    <asp:CreateUserWizardStep runat="server">
                    </asp:CreateUserWizardStep>
                    <asp:CompleteWizardStep runat="server">
                    </asp:CompleteWizardStep>
                </WizardSteps>
                <HeaderStyle Font-Size="Large" />
                <TextBoxStyle Font-Bold="False" />
            </asp:CreateUserWizard>
            &nbsp;</div>
            &nbsp;<asp:HyperLink ID="HyperLink1" runat="server"
NavigateUrl="~/Default.aspx">Return To HomePage</asp:HyperLink>
        </form>
    </body>
</html>
```

2.8. Administrative Interface Webconfig file Source code

```
<?xml version="1.0"?>

<configuration xmlns="http://schemas.microsoft.com/.NetConfiguration/v2.0">
    <appSettings/>
    <connectionStrings>
        <add name="MSIS_POSConnectionString"
connectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
Source=&quot;C:\Documents and Settings\Olusola Ayodele\My Documents\Visual
Studio 2005\WebSites\WebSite1\MSIS_POS.mdb&quot;;"
        providerName="System.Data.OleDb" />
    </connectionStrings>
    <system.web>
        <!--
        Set compilation debug="true" to insert debugging
```

symbols into the compiled page.

Visual Basic options:

Set strict="true" to disallow all data type conversions where data loss can occur.

Set explicit="true" to force declaration of all variables.

```
-->
<compilation debug="true" strict="false" explicit="true"/>
<pages>
  <namespaces>
    <clear/>
    <add namespace="System"/>
    <add namespace="System.Collections"/>
    <add namespace="System.Collections.Specialized"/>
    <add namespace="System.Configuration"/>
    <add namespace="System.Text"/>
    <add namespace="System.Text.RegularExpressions"/>
    <add namespace="System.Web"/>
    <add namespace="System.Web.Caching"/>
    <add namespace="System.Web.SessionState"/>
    <add namespace="System.Web.Security"/>
    <add namespace="System.Web.Profile"/>
    <add namespace="System.Web.UI"/>
    <add namespace="System.Web.UI.WebControls"/>
    <add namespace="System.Web.UI.WebControls.WebParts"/>
    <add namespace="System.Web.UI.HtmlControls"/>
  </namespaces>
</pages>
<!--
The <authentication> section enables configuration
of the security authentication mode used by
ASP.NET to identify an incoming user.
-->
<authentication mode="Forms" />
<!--
The <customErrors> section enables configuration
of what to do if/when an unhandled error occurs
during the execution of a request.
-->
</system.web>
<system.net>
  <mailSettings>
    <smtp from="awo@pluto.dsu.edu">
<network host="pluto.dsu.edu" port="25" password=""
  userName="awonugao" />
</smtp>
    </mailSettings>
  </system.net>
</configuration>
```

3. Work Breakdown Structure

Task Name		Duration	Start	Finish	Predec
1	Automation of MSIS Plan of Study at DSU	248 days	Mon 5/16/05	Wed 4/26/06	
2	Topic Research and Approval	20 days	Mon 5/16/05	Fri 6/10/05	
3	Chapter 1	57 days	Mon 6/13/05	Tue 8/30/05	2
4	Introduction	20 days	Mon 6/13/05	Fri 7/8/05	
5	Statement of Problems	6 days	Mon 7/11/05	Mon 7/18/05	4
6	Objectives and Significance of Project	7 days	Tue 7/19/05	Wed 7/27/05	5
7	Scope and Limitation of Project	5 days	Thu 7/28/05	Wed 8/3/05	6
8	Rationale of Project	5 days	Thu 8/4/05	Wed 8/10/05	7
9	Project Deliverable	4 days	Thu 8/11/05	Tue 8/16/05	8
10	Discussion and Review of Chapter one with Project Committee	9 days	Wed 8/17/05	Mon 8/29/05	9
11	Approval of Chapter one by Project Supervisor	1 day	Tue 8/30/05	Tue 8/30/05	10
12	Chapter 2	25 days	Wed 8/31/05	Tue 10/4/05	10
13	Literature Review and System Planning	25 days	Wed 8/31/05	Tue 10/4/05	10
14	Overview	7 days	Wed 8/31/05	Thu 9/8/05	11
15	Trends in developing Web-Based Plan of Study System	5 days	Fri 9/9/05	Thu 9/15/05	14
16	Challenge	4 days	Fri 9/16/05	Wed 9/21/05	15
17	Discussion and Review of Chapter two with Project Committee	8 days	Thu 9/22/05	Mon 10/3/05	16
18	Approval of Chapter two by Project Supervisor	1 day	Tue 10/4/05	Tue 10/4/05	17
19	Chapter 3	106 days	Wed 10/5/05	Wed 3/1/06	18
20	System Design	31 days	Wed 10/5/05	Wed 11/16/05	18
21	System Engineering - Coding	27 days	Thu 11/17/05	Fri 12/23/05	20
22	System Testing	21 days	Mon 12/26/05	Mon 1/23/06	21
23	System Modification and Testing Continuation	18 days	Tue 1/24/06	Thu 2/16/06	22
24	System Deliverable	2 days	Fri 2/17/06	Mon 2/20/06	23
25	Discussion and Review of Chapter three with Project Committee	6 days	Tue 2/21/06	Tue 2/28/06	24
26	Approval of Chapter three by Project Supervisor	1 day	Wed 3/1/06	Wed 3/1/06	25
27	Chapter 4	23 days	Thu 3/2/06	Mon 4/3/06	
28	Project Documentation	14 days	Thu 3/2/06	Tue 3/21/06	26
29	Implementation Requirements	4 days	Wed 3/22/06	Mon 3/27/06	28
30	Discussion and Review of chapter four with Project Committee	4 days	Tue 3/28/06	Fri 3/31/06	29
31	Approval of Chapter four by Project Supervisor	1 day	Mon 4/3/06	Mon 4/3/06	30
32	Chapter 5	11 days	Tue 4/4/06	Tue 4/18/06	31
33	Summary, Conclusion and Recommendation	11 days	Tue 4/4/06	Tue 4/18/06	31
34	Summary	4 days	Tue 4/4/06	Fri 4/7/06	31
35	Conclusion	3 days	Mon 4/10/06	Wed 4/12/06	34
36	Recommendation	1 day	Thu 4/13/06	Thu 4/13/06	35
37	Discussion and Review of Chapter five with Project Committee	1 day	Fri 4/14/06	Fri 4/14/06	36
38	Approval	2 days	Mon 4/17/06	Tue 4/18/06	37
39	Project Finalization	6 days	Wed 4/19/06	Wed 4/26/06	38
40	Abstract	2 days	Wed 4/19/06	Thu 4/20/06	38
41	Dedication and Acknowledgement	2 days	Fri 4/21/06	Mon 4/24/06	40
42	Project Presentation	1 day	Tue 4/25/06	Tue 4/25/06	41
43	Printing and Binding Process	1 day	Wed 4/26/06	Wed 4/26/06	42

Ready

4. Gantt chart

